AkRoll®

Product of Alumroll Novin co.

AKROLL

Architectural Aluminum Systems

Technical Catalogue - 2022





Alumroll Novin co.

www.alumroll.com




گواهینامه فنی

به استناد بند ۲ ماده دوم اساسنامه مرکز تحقیقات ساختمان و مسکن و براساس نتایج آزمون‌ها، بررسی‌های انجامشده و گزارش فنی پیوست که جزء لاینفک این مدرک است، محصول پروفیل آلومینیومی گرماشکن با نام تجاری AKROLL تولید شرکت صنایع آلومرول نوین به نشانی کارخانه: اراک، کیلومتر ۲ جاده تهران- روبروی شهرداری لاله، با ضوابط فنی مورد قبول این مرکز و استانداردهای روش آزمون در گزارش پیوست انطباق دارد و با رعایت الزامات راهنمای نصب پنجره های ساختمانی به شماره نشریه ۷۷۶ مرکز تحقیقات راه، مسکن و شهرسازی برای ساخت در و پنجره‌های داخلی و خارجی ساختمان‌ها مناسب است. لذا این گواهینامه فنی از تاریخ ۱۴۰۰/۰۱/۲۸ به مدت یک سال به شرکت صنایع آلومرول نوین برای بهره‌برداری قانونی اعطا می‌شود.

محمد شکرچی زاده
رئیس مرکز تحقیقات راه، مسکن و شهرسازی


پروانه کاربرد علامت استاندارد و نشانی

مدت اعتبار این پروانه از تاریخ صدور / تمدید نامه سال است


MOODY INTERNATIONAL

This is to certify that the Quality Management System of:

SANAYE ALUM ROLL NOVIN COMPANY

has been assessed and found compliant with the requirements of

ISO 9001:2000

Certification Scope:

Manufacturing of Different Kinds of Constructional & Industrial Aluminum Profile & Anodizing

Certificate No. 10110803005 / E

Issue Date: 28th June 2008

Expiry Date: 28th April 2011

Signed for and on behalf of Moody International Certification Ltd

۱ـ دارای گواهینامه فنی از مرکز تحقیقات راه، مسکن و شهرسازی
۲ـ دارای علامت استانـدارد ایـران
۳ـ واحد نمونه صنعتی کشوری سال ۹۶
۴ـ واحد نمونه صنعتـی استان مرکزی در سال ۹۵
۵ـ واحد ساعی و تلاشگر استان مرکزی در سال ۹۴
۶ـ واحد نمونه صنعتـی استان مرکزی در سال ۹۳
۷ـ واحد نمونه صنعتـی استان مرکزی در سال ۹۲
۸ـ واحد نمونه صنعتـی استان مرکزی در سال ۹۰

864290993

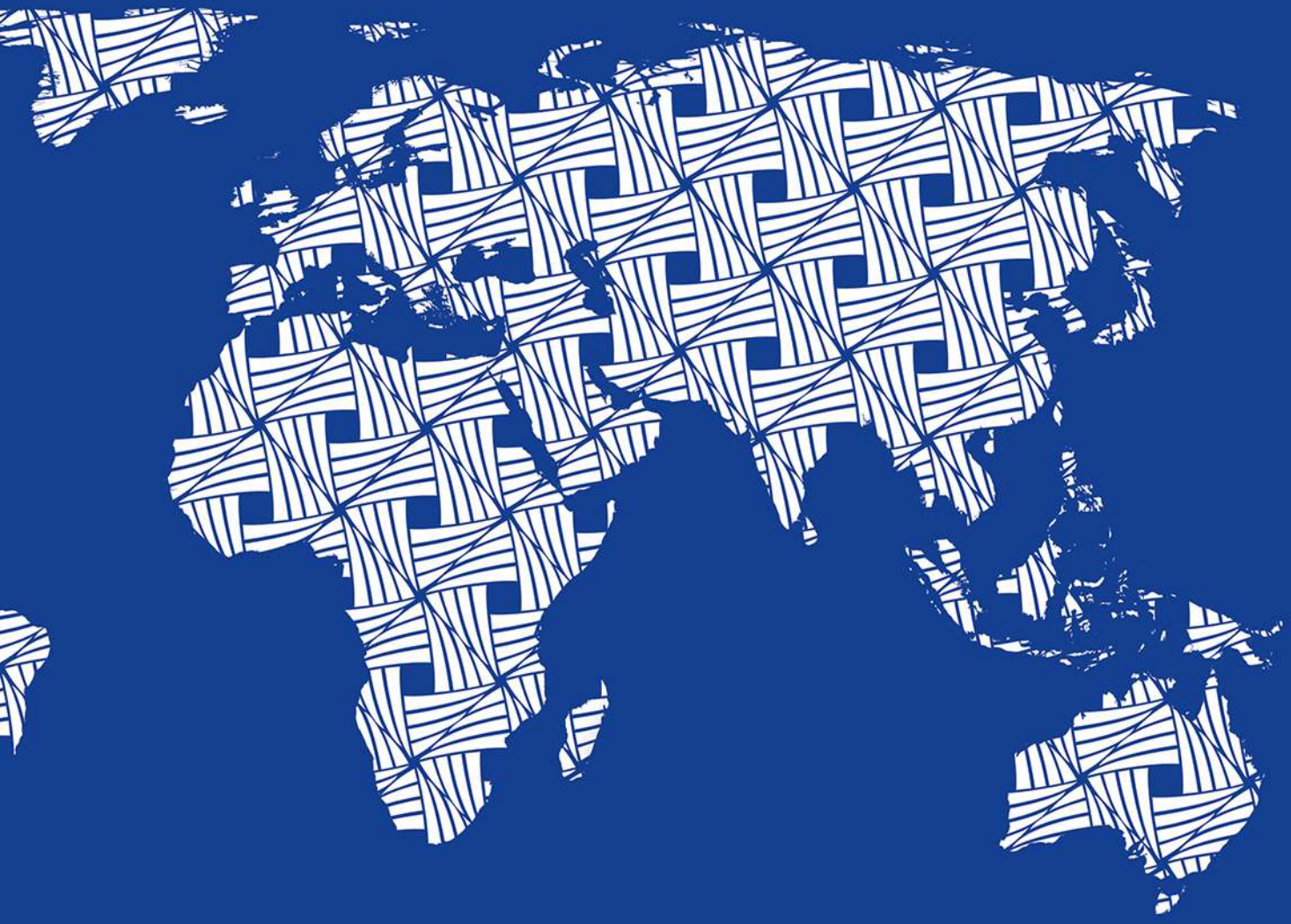
ISO 9001-2008

iwindoor 2.0

ORGADATA
A CLICK AHEAD

صادرات محصولات به کشورهای مختلف

Exporting to Several Countries

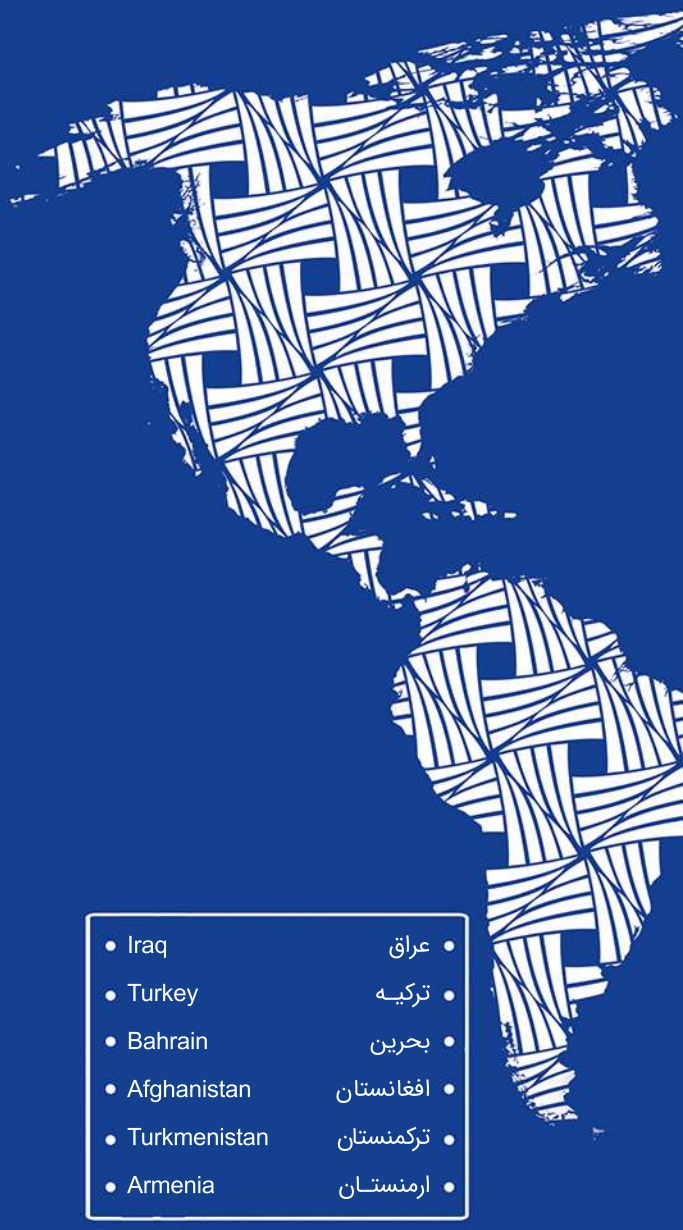


صنـــایع آلومـــــــرول نویـن

- بزرگترین صادر کننده مقـاطع آلومینیومی ایـران
- رشد صد در صدی صادرات در سال ۱۳۹۸ نسبت به سال ۱۳۹۷
- تنها صادر کننده مقاطع آلومینیومی به کشورهای مشترک المنافع (CIS)
- عضـویت در اتاقهای مشتـرک بازرگانـی

ALUMROLL NOVIN CO.

- The Biggest Aluminum Profiles Exporter of Iran
- One Hundred Percent Rises of Export Rate Between 2018 and 2019
- The Only Exporter of Aluminum Profiles to the CIS Countries
- Member of International Joint Chambers of Commerce



Iraq	عراق
Turkey	ترکیـه
Bahrain	بحرین
Afghanistan	افغانستان
Turkmenistan	ترکمنستان
Armenia	ارمنستـان



CONTENTS

AkRoll
Product Alumroll Novin Co.

Introduction of ALUMROLL NOVIN CO.	3
Casting Plant	5
Extrusion Die Designing, Manufacturing and Heat Treatment Plant	7
Extrusion Plant	9
Anodizing Plant	11
Powder Coating Plant	13
Sublimation Plant	14
Heat Treatment and Cold Working Plant	15
Thermal Break Profiles Production Line	15
Parts and Machineries Manufacturing Plant	16
Quality Control	17
Logistics	20
Research and Development	20
Aluminium as material	21
The advantages of aluminium	21

Thermal Break Systems

ALN 400	24
ALN 400 - Hinged System 60 Series	26
ALN 400 - Hidden vent System 55 Series	76
ALN 400 - Slide System 77 Series	102
ALN 400 - Lift & Slide System 143 Series	140

Normal Systems

ALN 300	172
ALN 300 - Hinged System 40 Series	174
ALN 300 - Slide System 77 Series	224
ALN 200	250
ALN 200 - Hinged System 47 & 59 Series	252
ALN 200 - Slide System 60 Series	286
ALN 100	314
ALN 100 - Light Hinged System 45 Series	316

Other Systems

Facade System	342
Sun Shading	382
Balustrade System	388



سابقه فعالیت شرکت صنایع آلومـــرول نوین در حوزه صنعت آلومینیوم کشور به حدود سال ۱۳۵۲ شمسی و احداث کارخانه آلومرول در اراک باز می‌گردد. درآن زمان، کارخانه آلومرول با بکارگیری مدرن‌تـرین و به روزترین سیستم‌های ریخته گری و هموژنایزینگ بیلت آلومینیوم و نیز پرسهای مدرن اکستروژن Schloemann، یکی از بزرگترین تولیدکنندگان مقاطع آلومینیومی در ایران و خاورمیانه لقب گرفت و سالـها بعنوان برترین تولیدکننده مقاطع آلومینیومی ساختمانی در کل کشور مطرح بود. اما با افزایش تقاضای کیفی و کمی مقاطع آلومینیومی در صنایع مختلف، امکانات موجود در این شرکت نتوانست پاسخگـوی تمام این نیازها باشد. لذا گوی رقابت را به برخی از رقبـای داخلـــی و خارجی واگذار کرد. با واگذاری کارخانه آلومـــرول به بخش خصوصی در سال ۱۳۸۶ و با بهره‌گیری از توان فنی و بازرگانی صنایع آلومینیوم پردیس و نیز بهینه سازی و بهبود شرایط کیفی و فنی خطوط تولید قدیمی و همچنین افزودن خطوط تولید رنگ پودری و اکستـروژن جدید به مجموعه، این شرکت تحت عنوان صنایع آلومـرول نوین، نه تنها در بخش ساختمان، بلکه در سایر صنایع دیگر نیز توانست مجدداً به سطح اول تولید کنندگان محصولات آلومینیومی باز گردد.

با این حال با توجه به گسترش روزافزون استفاده از فلز آلومینیوم در صنایع گوناگون و لزوم افزایش کیفیت محصولات آلومینیـومی وکاهش بهای تمام شده این محصولات از طریق استقرار خطوط تولید پیشرفته و به روز دنیا و ورود فن‌آوری‌های نویـن این صنعت، بمنظور تأمین نیازمندی‌های بازارهای داخلی و خارجی، جلوگیری از خام فروشی، ایجاد ارزش افزوده بالا و دستیابی به توان رقابت در بازارهای صادراتی و توجه به این نکته که محل فعلی شرکت در محدوده شهری واقع شده و امکان توسعه فضاهای تولیدی برای آن وجود نداشت، از سـال ۱۳۸۸ مطالعات اولیه مربوط به احداث اولین و بزرگترین شهرک اختصاصـــی صنعت آلومینیوم کشور را در زمینی به مساحت ۳۶ هکتار در شهرک صنعتی شماره ۳ اراک آغـاز و در همین رابطه، پس از مذاکره با بزرگترین و معتبـــرترین تأمین کنندگان انواع ماشین‌آلات و فن‌آوری‌های صنعت آلومینیوم در دنیا و انجام بازدیدهـــای متعدد فنی و بازرگانی، اقدام به واردات ماشین‌آلات گونـــاگون در قالب طرح توسعـــه شرکت صنایع آلومرول نوین نمود. این طرح، شامل بروزرسانی و نوسازی واحدهای مختلف از جمله ریخته‌گری، قالب‌سازی، اکستروژن، آنودایزینگ، رنگ پودری و طرح چوب و انتقال تکنـــولوژی در بخش‌های مختلف می‌گردید که براساس آن، فاز اول طرح اجرا شده و هم اکنون به بهره برداری رسیده‌است.





Introduction of ALUMROLL NOVIN CO.

The background of Sanaye Alumroll Novin Co. in field of aluminium dates back to 1973, when the Alumroll factory was established in Arak. At that time, Alumroll factory used to be named as one of the greatest producers of aluminium profiles in Iran and middle east for many years, by using the best and latest aluminium billet casting and homogenizing systems and SCHOLEAMANN modern extrusion presses.

However, with increasing the market's quality/quantity demand, the existing facilities of the company was not sufficient to meet the expectations of the customers and it ceded a part of the market to its competitors.

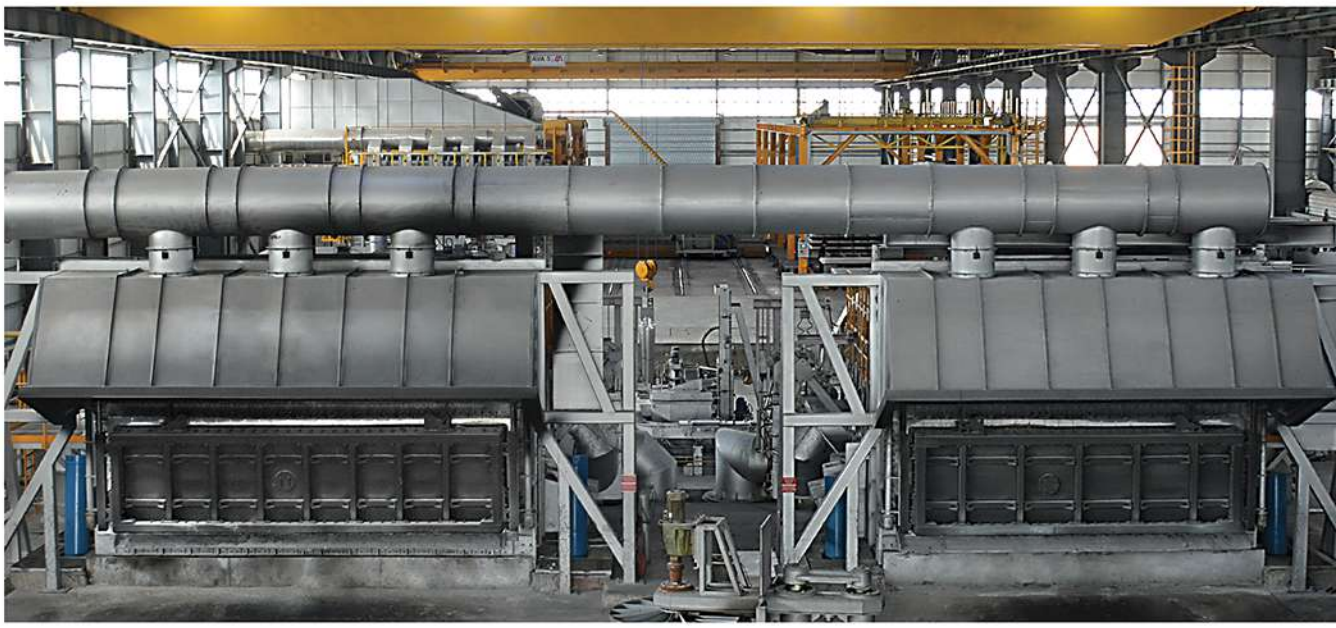
After Iranian government cession of the company to the private sector in 2008, the technical and commercial facilities of Paradise Aluminium Industries – new owner – was utilized to restart the production lines, modernization of machineries and adding new production equipment including powder coating lines and extrusion presses, the company regained its position in production of aluminum products, not only in architectural applications, but also in industrial and non-constructional sections, under the new name of 'Sanaye Alumroll Novin Co.'.

Anyway, due to expanding of using aluminium metal in different industries and vital need to enhance the quality of aluminium products by means of establishing modern and up-to-date production lines and latest technologies in order to meet the local and international market demands, preventing raw-sale, increasing value-added and obtaining the capability of competition in international markets, and since the company was located in an urban area and it was not possible to develop the production spaces, the initial studies of construction of the first and biggest aluminium exclusive town in an area of 36 hectares located in Arak no.3 industrial zone began in 2010. In this regard, the company managed to import all kind of machineries and technologies of aluminium industries from the world-renowned suppliers as a part of the company's development plan, after numerous technical and commercial visits.

This plan included updating and upgrading production plants including cast house, die shop, extrusion, anodizing, powder coating and sublimation and know-how transfer in different fields based on which the first phase has been completed and is in operation.













واحـد ریخته گری
Casting Plant

فاز اول طرح توسعه شامل راه‌اندازی کوره‌های ذوب و نگهدارنده کج‌شونده ۳۰ و ۵۰ تنی آلومینیوم، سیستم ریخت بیلت آلومینیومی به روش ایراسلیپ (airslip) به ظرفیت ۱۶۰ تن، دستگاه ریخت شمش‌های آلیاژی، واحد هموژنایزینگ بیلت‌های آلومینیومی به ظرفیت ۲۴۰ تن در روز و سیستم کامل جابجایی، برش، مارکینگ، بسته بندی و توزین بیلت‌های ریخت شده در واحد ریخته‌گری شمش و بیلت آلومینیوم است.

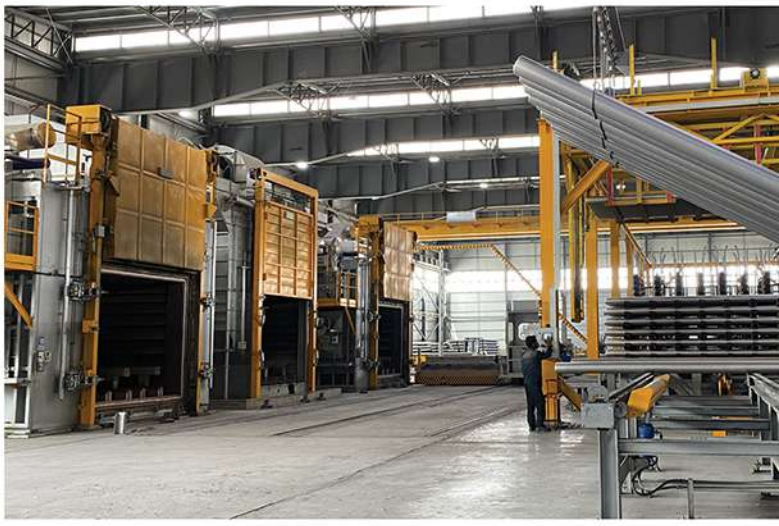
ماشین‌آلات راه‌اندازی شده در این بخش از جدیدترین فن‌آوری‌های روز دنیا بهره می‌برند که از آن جمله می‌توان به استفاده از مشعل‌های Regenerative، سیستم کنترل اتمسفر کوره و گازدایی از کف کوره (Porous Plugs) برای کوره‌های ذوب و نگهداری، بکارگیری دستگاه ریخت بیلت آلومینیوم به روش ایراسلیپ برای اولین بار در کشور با قابلیت ریخت بیلت‌های ۶ تا ۱۲ اینچ، تجهیزات انبارش و جابجایی بیلت آلومینیوم به صورت کاملا اتومـاتیک، کوره‌های هموژنایزینگ بیلت آلومینیـــوم به روش Batch Type هریک به ظرفیت ۴۰ تن به همراه سیستم خنک کننده و تثبیت کننده عملیـات هموژنایزینگ، و سیستمهای برش در طول های بلند و کوتاه، بسته بندی، مارکینگ و توزین کاملا اتوماتیک اشاره کرد.



In the framework of the first phase of development plan, the 30ton and 50ton capacity tiltable melting/holding furnaces, 160 ton/drop capacity airslip billet casting system, alloyed ingot casting machine, 240 ton/day capacity aluminium billet homogenizing plant with automatic stackers and de-stackers, cutting, marking, bundling and packing and weighting systems were installed.

The machineries of this plant use the latest technology in the world, including:

- Regenerative burners for better thermal performance and saving energy up to 30%
- Furnace atmosphere control system
- Porous plugs for degassing from the bottom of the furnaces
- Airslip casting system for 6 to 12 inch billets which has been used for the first time in Iran
- Fully automatic billet stackers and de-stackers
- Batch type 40 ton/batch capacity homogenizing furnaces
- Homogenizing stabilizer system with 40 ton/batch capacity cooling cabinets
- Long and short billet cutting systems
- Robotic bundling section
- Automatic marking and weighing devices







واحد طراحی، ساخت و عملیات حرارتی قالب‌های اکستروژن

Extrusion Die Designing, Manufacturing and Heat Treatment Plant













واحد ساخت قالب‌های اکستـــروژن این مجموعه، از نظر وسعت، امکانات و ظرفیت یکی از واحدهای کم نظیر در کشور است که با بهره‌گیری از برترین فولادهای گرم‌کار اروپایی (ویژه ساخت قالب‌های اکسترون که بطور مستقیم توسط واحد بازرگانی خارجـی مجموعه تأمین می‌گردد)، ابزارآلات و نرم افزارهای پیشرفته طراحی، شبیه‌سـازی و اصلاح قالب و تجهیزات مدرن CNC شامل ماشین‌آلات فرز، تراش، وایرکات، اسپارک و نیز ماشین‌آلات اتوماتیک سنگ مغناطیسی، سندبلاست و پولیش قالب، قادر به طراحی، ساخت و نگهداری انواع قالب‌های مورد نیاز صنعت اکستروژن تا قطـر ۵۳۰ میلیمتر است. از سـوی دیگر، این مجموعه به منظور افزایش کیفیت طراحی و ساخت قالب در فرایند اکستروژن، طی چند مرحله نسبت به آموزش پرسنل، ارتقای دانش فنی و از همه مهمتر انتقال تکنولـوژی طراحی، ساخت و نگهداری قالب‌های اکستروژن با مشارکت بهترین شرکت‌های طراحی و ساخت قالب اکستروژن از کشورهـای اروپائی اقدام نموده‌است.

همچنین، باتوجه به اهمیت انجام صحیح فرایند عملیات حـرارتی برروی قالب‌های اکستروژن و تأثیر آن بر کیفیت و طول عمر آنها، عملیات حرارتی به روش حمام نمک با استفاده از کوره‌های برقی آلمانی برروی قالب‌ها انجام می‌شود. ضمن آنکه به منظور بهبود کیفیت سطحی پروفیل‌های اکسـترودی و افزایش طول عمر قالب‌ها، فرایند نیتراسیـون با استفاده از مدرن ترین کوره‌هـای نیتراسیون منطبق بر آخرین فن‌آوری و استانداردهای روز دنیا در داخل خود مجموعه صورت می‌پذیرد.



The company's die shop is unique in the country in terms of work space, equipment and capacity. Using high quality European hot work tool steel bars (especial for making extrusion dies) purchased directly by foreign trade department of the company, modern software for designing, simulating the dies and CNC milling, lathe, wirecut EDM and spark machines together with automatic magnetic grinding and sand blasting and polishing devices plus high quality tolls for correcting the dies, enables the company to design and manufacture the extrusion dies to the diameter of 530 mm.
On the other hand, this company has maintained several training courses for relevant personnel with cooperation of European well-known companies in order to improve the quality of designing, manufacturing and maintenance of various extrusion dies by upgrading technical knowledge and know-how transfer of the aforementioned procedures.

Furthermore, with taking the importance of correct heat treatment process of extrusion dies and its essential effect on their quality and lifetime into consideration, the salt bath type heat treatment process is done on extrusion dies by German furnaces.

In addition, to reach the surface hardness of extrusion dies the nitriding process is performed by the most modern gas nitration furnace inside the company in accordance with the latest international standards.















واحـد اکستـروژن
Extrusion Plant

از تجهیزات موجود در این بخش می‌توان به کوره‌های پیشگرم بیلت با طول بلند، سیستم برش گـرم بیلت (Hot Shear) کوره‌های پیشگرم قالب بصورت Batch Type، مجموعه‌ای از پرس‌های اکستـروژن اروپایی شامل دو دستگاه پرس اکستروژن ۱۴۵۰ تنی ۵ و ۶ اینچ، دو دستگاه پرس اکستروژن ۲۰۰۰ تنی ۷ و ۸ اینچ، یک دستگاه پرس اکستروژن ۲۵۰۰ تنی ۸ و ۱۰ اینچ و یک دستگاه پرس اکسـتروژن ۳۱۵۰ تنی ۱۰ و ۱۲ اینچ، مجهز به جدیدترین سیسـتم های هیدرولیک و اتوماسیون، سیستم کوئنچینگ مقاطع تولیدی، کنترل دمای پروفیل خروجی و بکارگیری میزهای اکستروژن مجهز به دبل پولر، دستگاههای استرچ و برش نیمه اتوماتیک اشاره کرد. خطوط اکستـروژن این مجموعه قادر به تولید مقاطع آلومینیومی در گروه‌های آلیـاژی ۱۰۰۰ تا ۷۰۰۰ تا عرض ۴۰۰ میلی‌متر می باشند.

همچنین کوره‌های ایجینگ به ظرفیت ۲۴ تن برای پروفیـل‌های آلومینیومی تا طول ۱۴ متر در مجموعه مستقر شده و درحال بهره‌برداری می‌باشند.

Log preheating furnaces and hot shears, batch type die heating ovens, complete set of European extrusion presses including 2 x 1450 ton 5-6 inch, 2 x 2000 ton 7-8 inch, 1 x 2500 ton 8-10 inch and 1 x 3150 ton 10-12 inch machines equipped with latest hydraulic and automation systems, quenching systems, run-out tables equipped with double pullers, semi-automatic stretcher and cold saw machines are used in extrusion lines in order to produce aluminium sections in alloy groups 1000-7000 with the maximum width of 400 mm. in addition, the ageing process is done is 24 ton/batch capacity ageing ovens for the profiles to the length of 14 m.



Anodizing Plant





واحد آنـودایزینگ
Anodizing Plant

امروزه با گسـترش روزافزون اسـتفاده از پروفیل‌های آلومینیومی بخصوص در صنایع ساختمانی و همچنین صنایع دیگر و تغییر ذائقه بازار و انتظار مشتریان برای برخورداری از بهترین کیفیت تولیدی، فرایند پوشش سطحی مقاطع آلومینیوم به روش آنودایزینگ طبیعی (نقره‌ای) و رنگی، به یکی از بخشهای اصلی چرخه تولید پروفیل‌های آلومینیومی مبدل شده است که علاوه برنقش فنـــی و تکنیکی، آن را به یکی از جنبه‌های دکوراتیو و تزئینی مقاطع آلومینیومی مبدل ساخته است.
برخورداری از یک واحد آنـــودایزینگ با فن‌آوری روز دنیا هنگامـی اهمیت بیشتری پیدا می‌کند که انجام این فرایند، نیازمند کنترل دائمی کلیه پارامتـرهای مربوطه از جمله میزان جریان بـرق، ضخامـت لایه پوششی، یکنواختی رنگ و لـزوم استفاده از مواد شیمیایی با کیفیت بسیار بالا و کنترل ترکیب شیمیایی آن در آنودایزینگ مقاطع آلومینیومی می باشد. یکی از مشکلاتـــی که بسیاری از واحد های آنودایزینگ با آن مواجه هستند، عـدم امکان کنترل یکنواختی رنگ است که حتی با وجود بکارگیری، فاکتورهای ثابت آنودایزینگ، به دلیل دستی بودن عملیات و وجود خطاهای انســانی، دربسیاری از موارد قابل کنترل نیست.
با درک این موضوع و بمنظور ارائه کیفیتی درخور انتظارات مشتریان و دستیابی به میزان تولید مورد نیاز، این شرکت نسبت به خرید یک خط آنودایزینگ تمام اتوماتیک به ظرفیت ۶۰ تن در روز از معتبرترین سازنده اروپایی خطوط آنودایزینگ نموده‌است. این واحد، بزرگترین و پیشرفته‌ترین واحد آنودایزینگ مقـاطع آلومینیومی در کشور و یکی از چند نمونه انگشت‌شمار این خط در منطقه خاورمیانه و غرب آسیا است، که با بهره‌گیری از جدیدترین فن‌آوری روز دنیا، قادر به انجام پولیش شیمیایی مقاطع آلومینیومی، عملیات الکتروکالرینگ در چهار طیف رنگی بصورت همزمان و عملیات آبکاری به روش غوطه‌وری در چهار رنگ مختلف می‌باشد.
علاوه براین، به کمک دستگاههـای پولیش مکانیکی و براشینگ، قبل از اجراء فرایند آنودایزینگ، امکان انجام عملیات پولیش و براش بر روی مقاطع آلومینیومی وجود داشته تا دستیابی به کیفیت مطلوب و متنوع سطحی در مقاطع آنودایز شده فراهم گردد.

Nowadays, with expanding the use of aluminium profiles in construction and other industries together with the evolution of aluminium market and extensive changes in taste and demands of customers, the natural anodizing and electro coloring surface treatment processes are considered as one of the most important parts of aluminium profile production chain. These procedures not only have technical and protective roles, but also are one of the decorative aspects of aluminium profiles. Having a modern anodizing plant becomes even more important when it is understood that achieving required quality needs permanent control on all relevant parameters like electric current, anodizing layer thickness and color uniformity and high quality chemicals together with chemical composition control.
One of the problems which many of anodizing plants face is the failure in controlling the color uniformity, which cannot be solved even with utilizing the anodizing fixed factors, due to the manual nature of the operations and human errors.
Realizing this and to meet the quality appropriate to the demand of customers and achieve the required production capacity, the company installed a fully automatic anodizing line with capacity of 60 tons per day, manufactured by most reliable European supplier. As the biggest and newest one, this Qualanod authenticable plant is the pioneer of quality/quantity in the country and one of the few samples of this line in the middle east and west Asia regions, which can provide different applications such as chemical polishing, simultaneous electro coloring in 4 different color spectrums and immersion dyeing in 4 different colors, using the latest aluminium coloring technology in the world.
Furthermore, mechanical polishing and brushing machines are being used to perform polishing and brushing operations on profiles, in order to obtain desired quality and draw decoration sketches on profile surfaces.





واحد رنگ پودری
Powder Coating Plant

یکی دیگر از روشهای پوشش سطحی مقاطع آلومینیوم، استفاده از ترکیبات پلیمری به صورت پاشش پودرهای پلی‌استر و اپوکسی پلی‌استر به روش الکترواستـاتیک برروی سطح و فرآوری پودر در کوره‌های پخت در دمای ۱۸۰ تا ۲۰۰ درجه سانتی‌گراد است.
باتوجه به تنوع بی‌نهـــایت رنگ‌ها و طرح‌های پودر، با این روش می‌توان گستره وسیعی از گزینه‌ها در پوشش سطحی را دراختیار مصرف کنندگان قرار داد. این مجمـــوعه با دراختیار داشتن واحد پیشرفته رنگ پودری به روش الکترواستـــاتیک، شامل تجهیزات مدرن پاشش و کوره‌های پخت رنگ، بزرگترین و مجهزترین واحد رنگ پـــودری کشور است که علمیـات پوشش رنگ برروی انـواع مقاطع آلومینیومی تا طول ۱۴ متر و ظرفیت ۶۰ تن را در رنگ ها و طرح های مختلف اجراء می‌کند.

One of the other methods of surface coating of aluminium profiles is using polymer compositions by spraying polyester and epoxy polyester powders electrostatically on profile surfaces and processing the powder in baking furnaces in the temperature of 180~200°C. Due to unlimited variety of colors and designs of powders, this process offers a wide range of options to the customers. The electrostatic powder coating plant of the company is the biggest and most equipped powder coating plant in the country and performs powder coating of aluminium profiles to the length of 14 meters and capacity of 60 tons per day in different colors and designs.







واحد دکورال
Sublimation Plant

به‌کارگیری مقاطع آلومینیومی در صنعت ساختمان و دکوراسیون داخلی، لزوم ایجاد تنـوع در فرایند رنگ را ایجاب می‌نماید که در همین راستا می‌توان به فرایند ایجاد طرح‌ها و نقش‌های مختلف، همچون طرح چوب، مرمر، گل و حتی مناظر طبیعی اشاره کرد.
دراین روش ابتدا با استفاده از رنگی‌های پلی‌اورتان مقاوم در برابر هوازدگی، پوششی برروی سطح مورد نظر ایجاد گردیده و در مرحله بعد، درکوره‌هایی به دمای ۲۰۰ درجه در مدت ۱۰ دقیقه، طرح مورد نظر موجـود برروی فیلم کشیده شده روی پروفیـل، با استفاده از حرارت بر روی پوشش رنگ تثبیت می‌گردد. واحد دکورال مجموعه با به کارگیری جدیدتـرین و مدرن‌تـرین تجهیزات تمام اتوماتیک دکـورال ساخت شرکت SEF ITALIA قادر به تـولید روزانه ۳۰ تن انواع مقاطع و صفحات آلومینیومی با طرح‌های متنوع می‌باشد.

The application of aluminium profiles in construction industry and interior architecture necessitates to create diversity in painting, among which wood, marble, flowers and even natural landscapes can be mentioned. This process is generally named as sublimation. In this method, the desired surface is first covered by polyurethane weathering resistant materials. Then the film containing the desired design is pulled over the profile. Profiles are heated for 10 minutes in 200°C in special furnaces, in order to stabilize the design on the powder coating layer. The sublimation unit of the company uses very modern fully automatic machineries made by SEF ITALIA, to produce 30 tons/day of various aluminium sections and plates with different designs.



واحد عملیات حرارتی و کار سـرد
Heat Treatment and Cold Working Plant

واحد عملیات حرارتی و کـار سرد با دراختیار داشتن سه دستگاه کوره عمودی عملیات حرارتی انحلالی (Solution Treatment) مجهز به سیستم کوئنچ با سرعت بالا، پیشـرفته‌ترین روشهای گردش هوا و اندازه گیری کنترل یکنواختی دما، سیستم جدایش گازهای احتراق از محفظه بارگیری کوره، قادر به انجام انواع عملیات حرارتی انحلالی برروی کلیه مقاطع از آلیاژهـــای نوردی و ریختگی آلومینیوم تا طول ۳/۵ متر و عـرض ۱ متر می باشد و همچنین در این واحـــد کوره‌های ایجینگ برقی و گازی با **سیستم گردش هوای یکنواخت و کنترل دقیق دما بمنظور انجام پیرسختی** انواع آلیاژهای آلومینیوم مورد استفاده قرار می گیرد.

This plant utilizes 3 sets of vertical solution treatment furnaces, equipped with high speed quenching system, advanced air circulation and temperature uniformity controlling methods and combustion air separation system from load chamber, enabling it to perform solution heat treatment process on all roll milling and casting alloys to the length of 3.5 meters and width of 1 meter. In addition, electrical and gas heated ageing furnaces **equipped with uniform air circulation and temperature precise** control are used to perform ageing process on different aluminium alloys.

واحد تولید پروفیـــل های ترمـال بریک
Thermal Break Profiles Production line

در این واحد تولید پروفیل‌های ترمال بریک که در صنعت ساختمان مورد استفاده قرار می‌گیرند، انجام می گردد. در این واحد، جای‌گذاری نوار پلی‌آمید در پروفیـل‌های آلومینیومی و دوخت آن به صورت کاملا اتوماتیک انجام می‌شود. از نکات مهم تولیـد پروفیل‌های ترمال بریک، کیفیت نوار پلی‌آمید بکاررفته و نیز کیفیت فرایند دوخت پروفیل است، بگونه‌ای که نوار پلـی‌آمید بطور صحیح و محکم در پروفیل آلومینیومی قرار گرفته و دوخت می شود، این موضوع به کمک استفاده از ماشین‌آلات **مدرن مجهز و با کیفیت در این مجموعه میسر شده است. کیفیت فرایند** دوخت از طریق نمونه‌گیری مداوم از پروفیل‌های تولیدی و انجام آزمون در دستگاه‌های مخصـوص از طریق اعمال فشار برشی بررسی و کنترل می‌گردد.

علاوه بر آن، بمنظور حصـول اطمینان از کیفیت نوار پلی آمید مورد نیاز، این مجموعـــه نسبت به خریـد دو خط اکسـتروژن این نوع نوار ها و قالب‌های مربوطه از یکی از تولیـدکنندگان معتبر خارجی اقدام نموده و تولید آن در داخل مجموعه و با مرغوب ترین مواد اولیه انجام می گردد.

The thermal break profiles used in construction industry are produced in this line. The knurling, inserting polyamide stripe and sewing process are done fully automatically. One of the most important factors in manufacturing thermal break profiles is the quality of the polyamide profiles and sewing process, so the polyamide stripe to be inserted inside aluminium profile correctly and tight. This advantage has been achieved by **means of modern and high quality machineries. The quality of** sewing process is inspected through continuous sampling and testing in special devices by applying appropriate pressures and checking the results.

In addition, in order to ensure the quality of needed polyamide sections, the company installed two polyamide extrusion lines, purchased from one of the reliable suppliers. So the required sections are produced inside the company from the best raw materials.

واحـد ماشین سـازی

Parts and Machineries Manufacturing Plant

یکی از اهدافی که در عقد قرارداد خرید ماشین‌آلات و تجهیزات با تأمین کنندگان خارجی دنبال می‌شود، اجراء این پروژه‌ها بصورت مشترک توسط تأمیـن کننده خارجی و مجموعه آلومـرول است. به این معنا که تنها بخش‌هایی از خطوط تولید و ماشین‌آلات که در داخل کشور قابل ساخت نبوده و یا تجهیزاتـی که در داخل کشور یافت نمی‌شود توسط طرف خارجی تأمین و دیگر بخش‌ها از جمله سازه فلزی و تجهیزات گوناگون توسط شرکت آلومرول نوین و مطابق با مشخصات فنی و نظارت تـأمین کننده اصلی ساخته می شود که انجام این موضوع موجب انتقال تکنولوژی طراحی و ساخت این تجهیزات و افزایش توان فنـــی شرکت می‌گردد. درهمین راستا، مجموعه از سال ۱۳۹۶، اقدام به راه‌اندازی واحد ماشین‌سازی خود نمود. بابهره‌گیری از مهندسیـــن مجرب و متخصص، علاوه بر واحد **طراحی مهندسی پیشرفته، با به کارگیری انواع تجهیزات ساخت سازه های فلـــزی، اعم از دستگاههای برش، تراش، اره، جوش، سنگ** زنی و تست و یک واحد رنگ‌کاری مستقل، امکان طراحی و ساخت بخش‌های گوناگون مربوط به پروژه‌های ساخت و نوسازی تجهیزات را فراهم نموده است.

One of the desired goals of implementing production lines through international non-Iranian suppliers is creating joint projects, through which only those critical parts and accessories that cannot be manufactured or found locally are supplied by foreign supplier and other parts such as steel structures and different components will be provided by Alumroll, according to technical specifications and under supervision of supplier. That facilitates designing and manufacturing know-how transfer and increasing technical capability of this company. For this purpose, this company launched its parts and machineries manufacturing plant, in 2017. This plant performs all designing and manufacturing activities for different parts of its construction and renovation projects, using a wide range of facilities like cutting, lathe, welding, grinding, test and painting machineries.

واحد کنترل کیفیت
Quality Control

جدا از تجهیزات تولیدی که برای دستیابی به ظرفیت و مرغوبیت مورد نیاز لازم است، کنترل کیفیت و بهبود مستمر آن نیز همواره از دغدغه‌های این مجموعه بوده‌است. به ویژه آنکه این مجموعه وظیفه تأمین مواد اولیه و محصولات مورد نیاز طیف وسیعی از صنایع گوناگون را براساس استانداردهای مختلف برعهده دارد که برآوردن این تعهدات، جز از طریق اجرای دستورالعمل‌های دقیق کیفی و نظارت دائمی برکلیه فرایندهای تولیدی ممکن نیست. در همین راستا، کارشناسان کنترل کیفی این مجموعه با استفاده از انواع تجهیزات لازم و ارتباط دائمی با آزمایشگاه مجموعه، هریک از فرایندهای تولید و محصولات آن را در چارچوب استانداردهای مربوطه مورد بازرسی و کنترل دقیق قرار می‌دهند تا از تطابق آن با الزامات کیفی اطمینان حاصل گردد. به منظور حصول اطمینان از کیفیت محصولات تولیدی، واحد کنترل کیفی مجموعه از آزمایشگاه های مجهز متالورژی، شیمیایی و رنگ پودری برخوردار است که علاوه بر مواد اولیه ورودی به مجموعه، نسبت به کنترل کیفی کلیه محصولات تولید شده در خطوط تولید براساس استانداردهای بین‌المللی و مشخصات فنی مورد نیاز اقدام می‌نماید تا از کسب رضایت‌مندی مشتریان و تداوم بهبود کیفی محصولات تولیدی مجموعه اطمینان حاصل گردد.

آزمایشگاه متالورژی مجموعه یکی از مجهزترین آزمایشگاه‌های کشور در صنعت آلومینیوم است که با دراختیار داشتن تجهیزات زیر قادر به بررسی کلیه خواص متالورژیکی، فیزیکی و مکانیکی مواد فلزی می‌باشد:

- دستگاه اندازه گیری هیدروژن بصورت برخط (Online) ساخت معتبرترین سازنده اروپایی که برای اندازه‌گیری و کنترل میزان هیدروژن موجود در مذاب آلومینیوم بکار می‌رود
- دستگاه کوانتومتری با قابلیت شناسایی و اندازه‌گیری کمترین مقادیر بیش از ۳۰ عنصر مؤثر در آلیاژهای مختلف آلومینیوم
- دستگاه تست کشش، فشار و خمش به منظور اندازه‌گیری خواص مکانیکی آلیاژهای تولیدی
- دستگاه میکروسکوپ متالوگرافی و پلاریزاسیون جهت بررسی ساختار مواد و مقاطع تولیدی
- دستگاه برش و پولیشر دوقلوی اتوماتیک جهت آماده سازی نمونه‌های متالوگرافی
- دستگاه آزمون اولتراسونیک جهت بررسی غیر مخرب عیوب داخلی مقاطع
- دستگاه اندازه‌گیری هدایت الکتریکی
- دستگاه سختی سنج ثابت و پرتابل جهت آزمون سختی مقاطع آلومینیومی
- دستگاه‌های متنوع و دقیق اندازه‌گیری ابعادی

در آزمایشگاه شیمی واحد آنودایزینگ، عوامل مؤثر بر فرایند از جمله غلظت عناصر شیمیایی موجود در وان‌های مختلف بطور دائمی اندازه‌گیری می‌شود تا با کنترل پارامترهای فرایند، محصولی با کیفیت تولید شده و در اختیار مشتریان قرار گیرد. علاوه برآن، با استفاده از جدیدترین تجهیزات، طیف رنگ آنودایز رنگی، ضخامت لایه آنودایزینگ و همچنین کیفیت لایه سیل ایجاد شده به طور دائم اندازه‌گیری و کنترل می‌شود.

آزمایشگاه رنگ پودری نیز با در اختیار داشتن گان‌ها و کوره‌های آزمایشگاهی، رنگ‌های ورودی به شرکت را قبل از ارسال به خط تولید مورد بررسی قرار می‌دهد. از دیگر آزمایش‌های این قسمت می‌توان به کنترل ضخامت لایه رنگ پوشش شده، میزان براقیت و بررسی میزان چسبندگی رنگ به پروفیل اشاره نمود که به کمک بهترین تجهیزات خریداری شده از معتبرترین شرکت‌های اروپایی، به صورت دائم تحت آزمایش و کنترل قرار می‌گیرد.


DELL




KOOPA
UV1





Quality Control

Beside the production facilities which are needed to achieve the desired capacity, quality control and continuous improvement has always been of the company's concerns. Especially, when this company is responsible for supplying materials and products to a wide range of industries, based on various standards. Fulfilling these expectations is possible only through implementation of precise quality instructions and permanent monitoring of production procedures. In this company, the quality control experts are responsible for monitoring and inspecting all production procedures and their products from beginning to the end in frame of appropriate standards, to ensure that any process and product comply with quality requirements. Considering the scope of company's production activities, the quality control unit employs advanced metallurgy, chemistry and powder coating laboratories in which in addition to the input raw materials, the quality of all produced products of production lines are inspected according to the international standards and customer requirements in order to ensure customers satisfaction and continuous improvement of production procedures.

The metallurgy laboratory of the company is one of the most advanced samples of the country in the field of aluminium which is able to investigate all metallurgical, physical and mechanical specifications of metallic materials, using the following equipment:

- Online hydrogen measuring device produced by one of the most reliable European manufacturers for measuring and controlling hydrogen content in liquid aluminium
- Advanced quantometer device able to identify and measure the lowest amount of more than 30 effective elements of aluminium alloys
- Tension, pressure and bending test device in order to check the mechanical specifications of casted alloys
- Metallography and polarization microscope to check the microstructure of produced materials and sections
- Automatic twin cutting and polishing device for preparation of metallography samples
- Ultrasonic test device for nondestructive test of internal defects
- Electrical conductivity measuring device
- Stationary and portable hardness testers for checking the hardness of aluminium sections
- Various and precise dimensional measuring equipment

In Chemistry laboratory, the effective factors of the process especially the content of chemicals in the tanks is measured continuously to meet the quality demanded by customer and required by the standards. In addition, the electro anodizing color spectrum, the anodizing layer thickness and the quality of sealing layer is controlled continuously by means of advanced equipment.

Furthermore, in the powder coating laboratory, the quality of the input powders is controlled by laboratory spraying guns and ovens before sending to production lines. Moreover, the thickness of powder coating layer, gloss value and powder adhesion to the metal surface are other tests performed in this laboratory.



لجستیک
Logistics

به منظور تحویل به موقع محصولات و جلوگیری از بروز هرگونه آسیب حین حمل و نقل آن، مجموعه با استفاده از شبکه گسترده لجستیک خود شامل انواع تریلر، کامیون و کامیونت علاوه بر پوشش مشتریان داخل کشور، حمل محصولات صادراتی خود را به کشورهای مختلف از جمله عراق، افغانستان، ترکیه، ارمنستان، ترکمنستان و ... به انجام می‌رساند.

In order to maintain an on time delivery and prevent any damage to the products during transportation, the company uses its wide transportation network including trailers, trucks and pickups not only for covering domestic deliveries, but also for sending the products to different countries such as Iraq, Afghanistan, Turkey, Armenia, Turkmenistan and ...

تحقیق و توسعه
Research and Development

علاوه بر دستیابی به جدیدترین تجهیزات، ماشین‌آلات و فن‌آوری‌های روز دنیا در زمینه تولید مقاطع آلومینیومی کارشناسان بخش تحقیق و توسعه این مجموعه در راستای ارائه بهترین خدمات به مشتریان بطور مستمر با معتبرترین شرکت‌های تولیدی و مجموعه‌های ارائه کننده دانش فنی و انتقال تکنولوژی در سراسر دنیا در ارتباط بوده و همواره در تلاش برای بهبود مستمر تکنولوژی و محصولات تولیدی مجموعه می باشند.

یکی از اهدافی که در چارچوب تحقیق و توسعه در این مجموعه مدنظر بوده‌است، ارائه سیستم‌های پروفیل ساختمانی شامل مقاطع در و پنجره و نمای ساختمان و سایر مقاطع وابسته با توجه شرایط جغرافیایی، اقلیم و فرهنگ ایرانی و البته منطبق با آخرین استانداردهای بین المللی می باشد. درهمین راستا، تیمی از متخصصین مجموعه مطالعات گسترده‌ای را برای طراحی و اجراء سیستم‌های جدید با مشاوره معتبرترین شرکت‌های داخلی و خارجی آغاز نمود که نهایتاً به طراحی سری جدید سیستم‌های پروفیل منتهی شده است. که به زودی مراحل ساخت و تولید و انجام تستهای استاندارد آن انجام و به منظور تسهیل در امر ساخت و اجرای این سیستم ها از طریق نرم افزار Orgadata به سازندگان سیستم های ساختمانی ارائه می گردد.

In addition to achieving the latest machineries, equipment and technologies around the world in the field of producing aluminium sections, the R&D department of the company try to provide the customers with the best services through constant connection with reputable production companies and the provider centers of technical knowledge and know-how transfer, around the world.

One of the company main goals within the framework of the R&D activities is providing new systems for constructional and architectural profiles and their accessories based on climate, geography and culture of Iran and according to the latest international standards. To this end, a team of experts of the company was assigned to conduct extensive studies for designing and executing of those systems in consultation with most reliable Iranian and non-Iranian companies, led to design of a series of new profile systems. In the near future, the manufacturing, production and standard tests will be completed and the systems will be available for construction companies and other end-users via ORGADATA software.

Aluminium as material

آلومینیوم یک فلز بسیار جوان (نو ظهور) است که برای اولین بار در سال ۱۸۵۴ استخراج شد. به طور تجاری از سال ۱۸۸۶ به عنوان یک فلز گران‌بها تولید شد و تولید صنعتی آن برای برنامه های عمرانی در دهه ۱۹۵۰ گسترش یافت. امروزه آلومینیوم نقش کلیـــدی در پایداری ساختمان‌های جدید و نوسازی واحدهای قدیمی ایفا می‌کند و با توجه به خواص عملکردی خود در بحث انرژی ، ایمنی و راحتی ساختمان های جدید نقش آفرینی می‌کند.

Aluminium is a very young metal, extracted for the first time in 1854. Commercially produced as a precious metal from 1886, its industrial production for civil applications only achieved wide use in the 1950's. Now aluminium plays a key role for the sustainability of new buildings and the renovation of existing ones. Thanks to its performance properties aluminium contributes to the energy performance, safety and comfort of new buildings.





مزایای آلومینیوم
The advantages of aluminium

انعطاف پذیری در طراحی

فرآیند اکستروژن طیف وسیعی از اشکال و مقاطع را ارائه می‌دهد و به طراحان اجازه می دهد تا کاربردهای متعددی را در یک پروفیل ادغام کنند.

طول عمر بالا

محصولات ساختمانی آلومینیوم از آلیاژهایی ساخته شده‌اند که مقاومت به خوردگی در برابر آب و هوا و همچنین مقـــاومت بالا در برابر اثرات مضر اشعه ماوراء بنفش داشته که عملکـــرد مطلوبی را در مدت زمان طولانی تضمین می کند.

نسبت استحکام به وزن بالا

به لطف استحکام و سختی ذاتی این فلز، پنجره‌ها و پروفیل‌های نمای ساختمان آلومینیومی می‌توانند بسیار ظریف طراحی گردند. که این امر سبب کاهش وزن سازه ، حمل و نقل و جابجایی آسان‌تر و کاهش خطر صدمات ناشی از کار می‌شود.

Design flexibility

The extrusion process offers an almost infinite range of forms and sections, allowing designers to integrate numerous functions into one profile.

Long service life

Aluminium building products are made from alloys that are weatherproof, corrosion-resistant and immune to the harmful effects of UV rays, ensuring optimal performance over a very long period of time

High strength-to-weight ratio

Thanks to the metal's inherent strength and stiffness, aluminium window and curtain wall frames can be very narrow. Material's light weight makes it easier to transport and handle on-site, reducing the risk of work related injury.

High-reflectivity

This characteristic feature makes aluminium a very efficient material for light management. Aluminium shading devices can be used to reduce the need for air conditioning in summer.

Fire safety

Aluminium does not burn and therefore is classified as a noncombustible construction material (European Fire Class A1). Aluminium alloys will nevertheless melt at around 650 C, but without releasing harmful gases.

No release of dangerous substances

Several studies have proved that aluminium building products do not present a hazard to occupants or the surrounding environment. Aluminium building products have no negative impact, either on indoor air quality or on soil, surface and groundwater.

Optimal security

Where high security is required, specially designed, strengthened aluminium frames can be used. While the glass for such applications may well be heavy, the overall weight of the structure remains manageable thanks to the light weight of the aluminium frames.

Alloys

Aluminium in its pure form is a very soft metal. Thanks to the addition of alloying elements such as copper, manganese, magnesium, zinc, etc. and thanks to suitable production processes, the physical and mechanical properties can be varied in a wide range to satisfy the requirements of a large number of different applications. AKROLL profiles are extruded from the following alloys:

EN AW-1050 [Al 99.5]
EN AW-6060 [Al Mg Si]
EN AW-6063 [Al MgO,7 Si]
EN AW-6061 [Al Mg1 Si Cu]
EN AW-6005 [Al Si Mg]
EN AW-6082 [Al Si1 Mg Mn]

The most common aluminium alloy which is used by AKROLL is EN AW 6063. Here are the properties of this alloy:

MATERIAL PROPERTIES

Aluminium alloy EN AW 6063 T5
Ultimate tensile strength Rm = 175 MPa
Yield strength $R_{p0,2}$ = 130 MPa
Modulus of elasticity E_{al} = 70 GPa
Coefficient of thermal expansion $\alpha = 23,4 \times 10^{-6}/°K$

قابلیت بازتاب بالا

این ویژگی مشخص، آلومینیوم را به یک ماده بسیار کارآمد برای مدیریت نور تبدیل می‌کند. می‌توان از سیستم سایه‌بان آلومینیومی برای کاهش نیاز به تهویه مطبوع در تابستان استفاده کرد.

ایمنی آتش

آلومینیوم نمی سوزد بنابراین به عنوان یک مصالح ساختمانی غیر قابل احتراق دسته بنـدی می شود (کلاس اروپایی آتش- A۱). با این وجود، آلیاژهای آلومینیوم در دمای ۶۵۰ درجه سانتیگراد بدون انتشار گازهای خطرناک ذوب می‌شوند.

عدم آلودگی محیط زیستی

مطالعات متعدد ثابت کرده است که محصولات ساختمانی آلومینیومی خطری برای ساکنان یا محیط اطراف ندارند. این محصولات هیچ تأثیر منفـــی چه بر کیفیت هـــوای داخل خانه و چه بر روی خاک و آبهای سطحی و زیرزمینی ندارند.

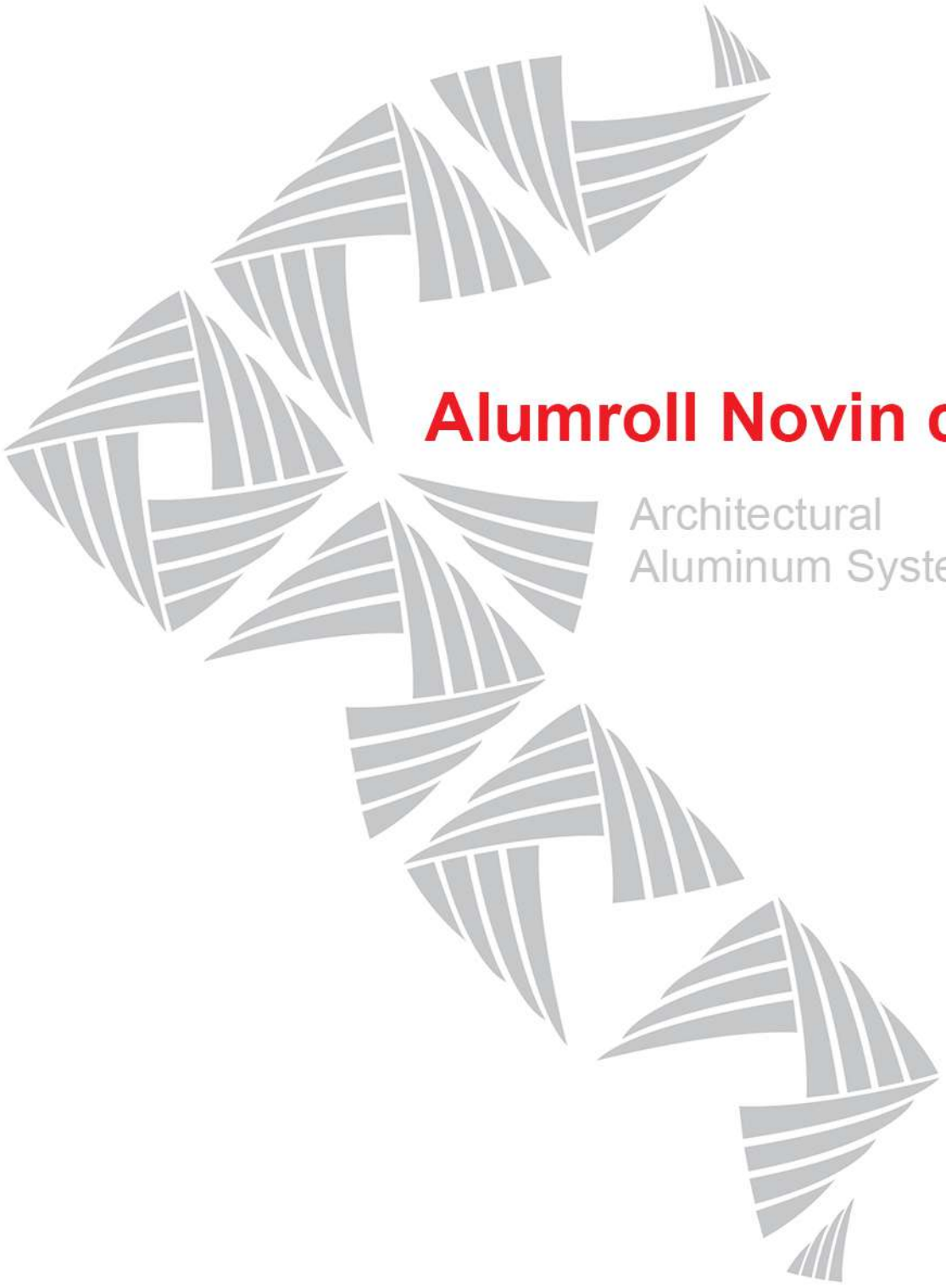
امنیت مطلوب

در مواردی که امنیت بالایی مورد نیـــاز است، می‌توان از فریم‌های آلومینیومی تقویت شده با طراحی خاص استفاده کرد. در حالی که شیشه برای چنین کاربردهایی ممکن است سنگین باشد، اضافه وزن سازه را می‌توان با وزن کم فریم‌های آلومینیومی کنترل کرد.

آلیاژها

آلومینیوم به صورت خالص یک فلـز بسیار نرم است. به لطف افزودن عناصر آلیـاژی مانند مس ، منگنز ، منیزیم ، روی و غیره و با بهره‌گیری فرآیندهای مناسب تولید، می‌توان خواص فیزیکی و مکانیکی را در طیف وسیعی تغییر داد تا نیاز رنج وسیعی از کاربـردهای مختلف را برآورده سـازد. پروفیل‌های مورد اسـتفاده برای اکسترود آکرول از آلیاژهای ذیل می‌باشد:

رایج ترین آلیاژ آلومینیوم که توسط آکرول استفاده می شود EN AW ۶۰۶۳ است. در اینجا خواص این آلیاژ آمده است:



Alumroll Novin co.

Architectural
Aluminum Systems

ALN 400

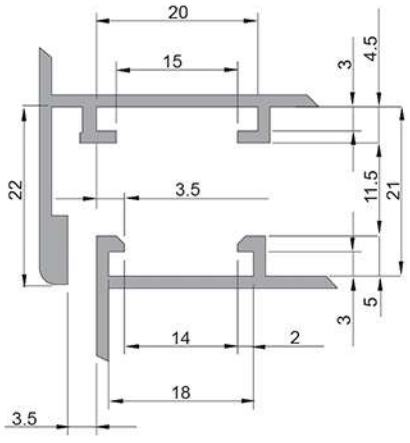
Thermal Break Systems



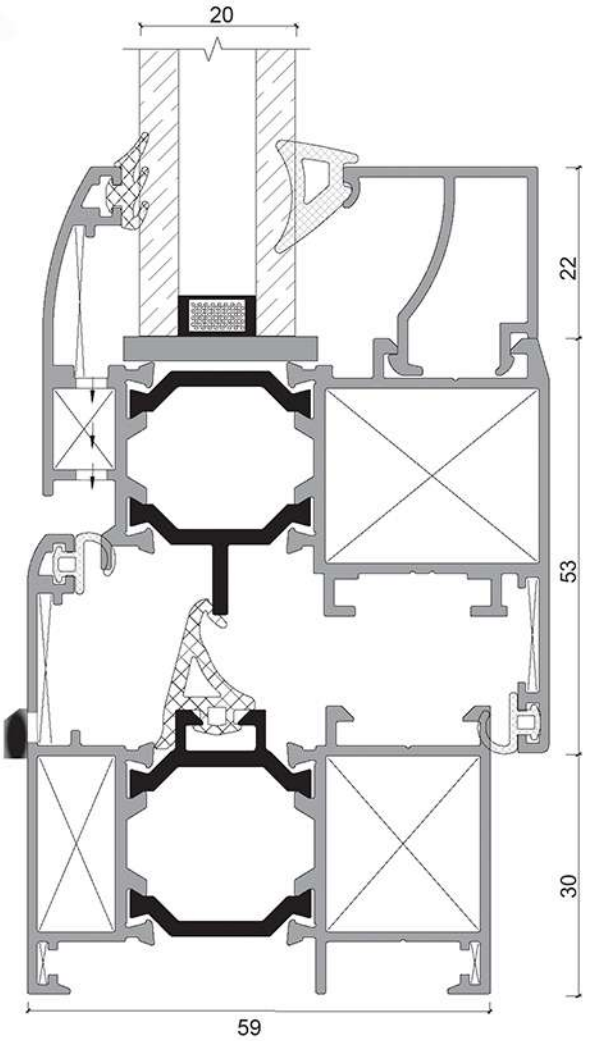


Hinged System 60 Series

. Profile width:	60 - 77 mm
. Vent width:	65 mm
. Wall thickness:	1.3 - 1.4 mm
. Rubber description:	EPDM DIN 7863
. Glass thickness:	18 - 40 m
. Aluminum alloy extrusion:	EN AW 6063 T5
. Isulation bar :	Polyamide Width 24 mm
. Thermal permability :	Uf = 2.58 w/mk
. Safety drainage system	
. Various typologies	

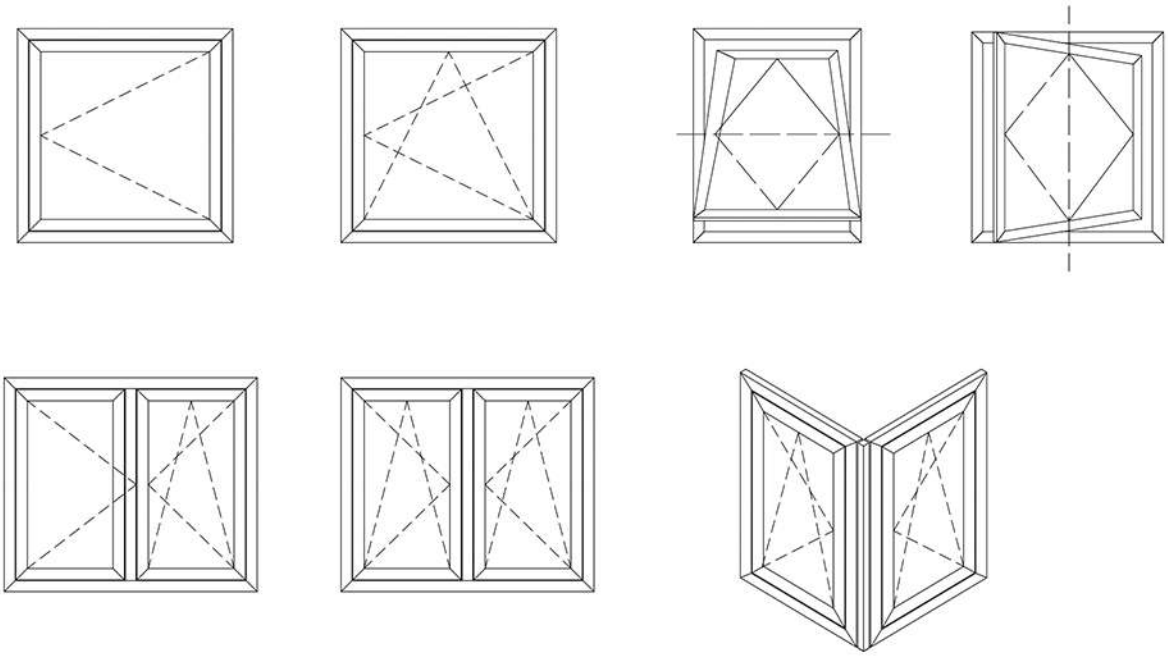


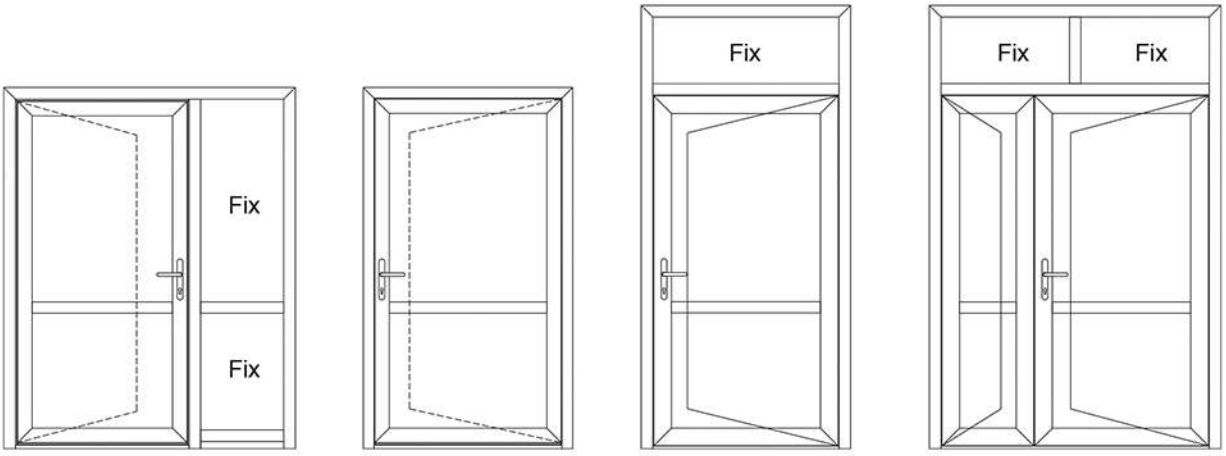
Euro Groove Section



Hinged System 60 Series

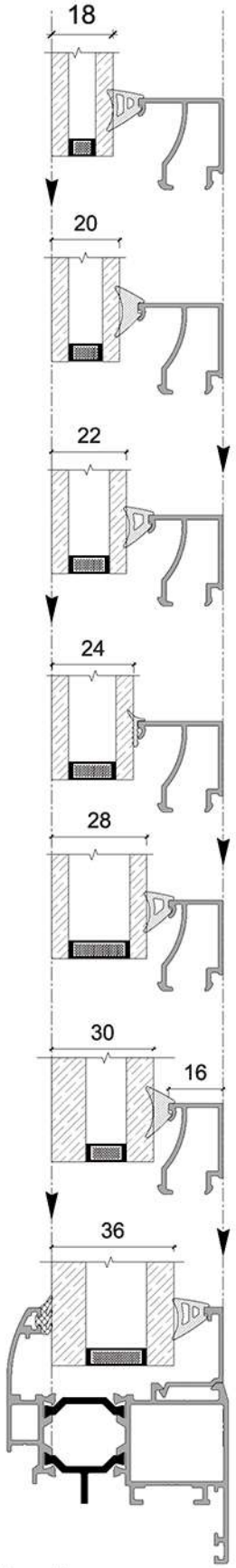
Typologies



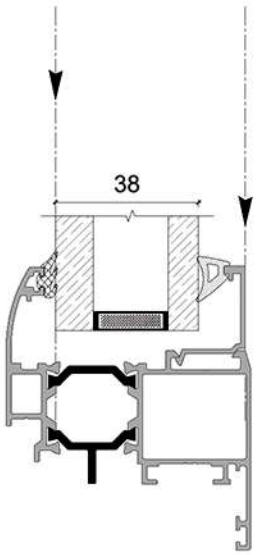


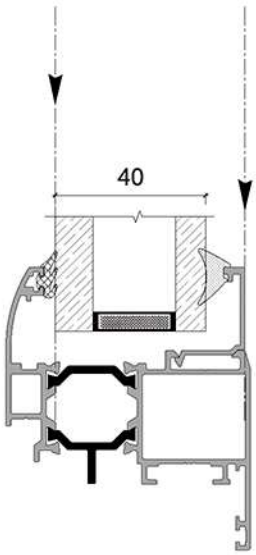
Hinged System 60 Series

Glazing Table



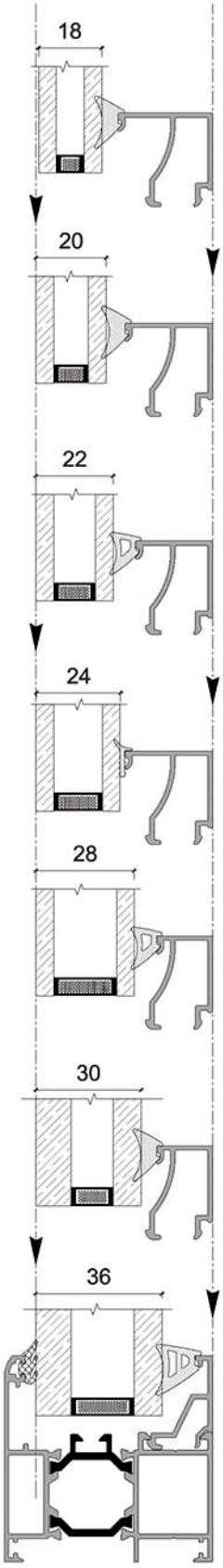
Glazing Thickness	Gasket Inside	Gasket Outside	Glazing Bead
18 mm	7.5 EP-021	MO68	ALN-421
20 mm	4.5 EP-016	MO68	ALN-421
22 mm	5.5 EP-016	MO68	ALN-323
24 mm	1.9 EP-015	MO68	ALN-421
28 mm	5.5 EP-019	MO68	ALN-423
30 mm	4.5 EP-016	MO68	ALN-423
36 mm	7.5 EP-021	MO68	ALN-424
38 mm	5.5 EP-019	MO68	ALN-424
40 mm	4.5 EP-016	MO68	ALN-424



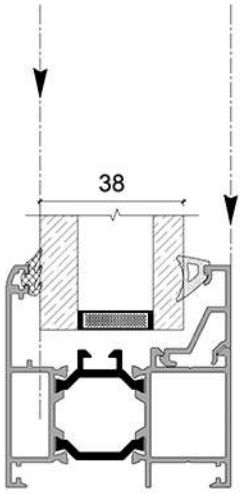


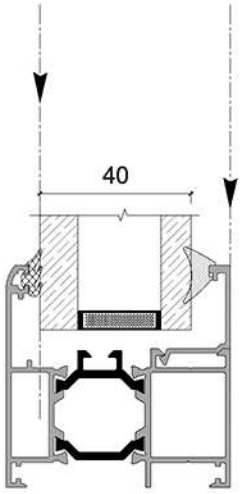
Hinged System 60 Series

Glazing Table



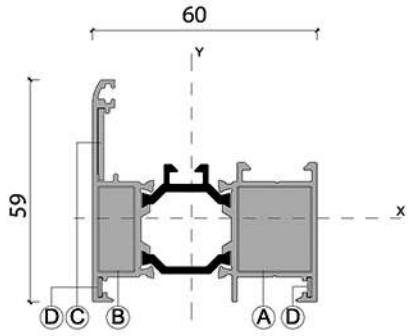
Glazing Thickness	Gasket Inside	Gasket Outside	Glazing Bead
18 mm	4.5 EP-016	MO68	ALN-422
20 mm	4.5 EP-016	MO68	ALN-421
22 mm	5.5 EP-019	MO68	ALN-323
24 mm	1.9 EP-015	MO68	ALN-421
28 mm	5.5 EP-019	MO68	ALN-423
30 mm	4.5 EP-016	MO68	ALN-423
36 mm	7.5 EP-021	MO68	ALN-322
38 mm	5.5 EP-019	MO68	ALN-322
40 mm	4.5 EP-016	MO68	ALN-424



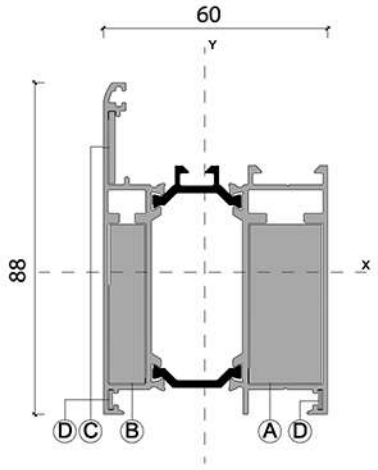


Hinged System 60 Series

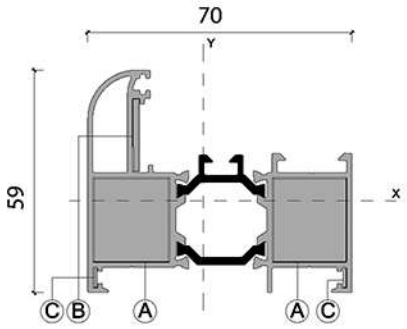
Profile & Accessories Information



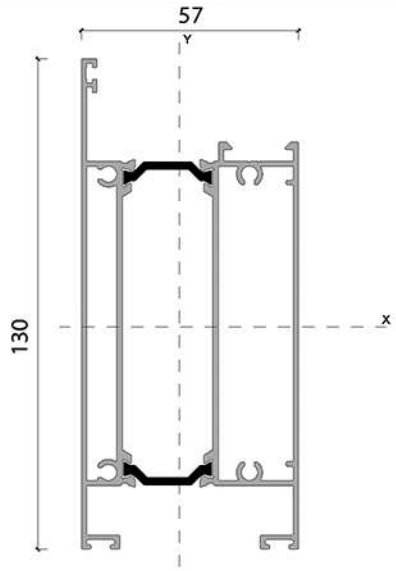
I_X: 8.15 cm^4	I_Y: 18.2 cm^4	
Frame : ALN-400	A: PCP-22/19 mm	
	B: PCP-22/9 mm	
Weight: 1210 gr/m	C: fuji 2000	
	D: MO 19	



I_X: 31.86 cm^4	I_Y: 28.06 cm^4	
Frame : ALN-409	A: PCP-42/19 mm	
	B: PCP-42/9 mm	
Weight: 1755 gr/m	C: fuji 2000	
	D: MO 19	



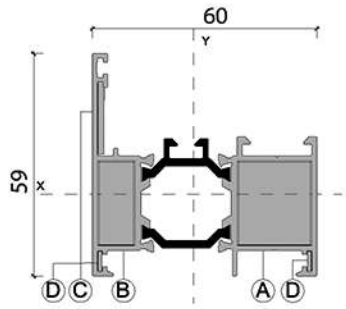
I_X: 11.37 cm^4	I_Y: 27.09 cm^4	
Frame : ALN-408	A: PCP-22 / 19 mm	
	B: fuji 2000	
Weight: 1397 gr/m	C: MO 19	

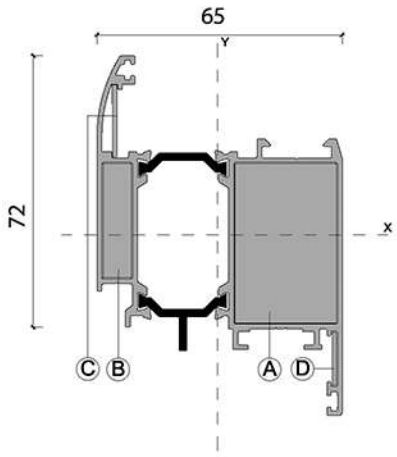


I_X: 101.67 cm^4	I_Y: 37.42 cm^4	
Frame : ALN-410	A: –	
Weight: 2335 gr/m	B: –	

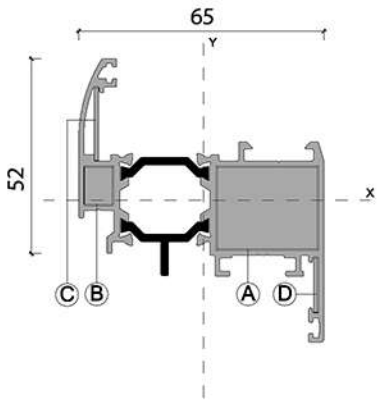
Hinged System 60 Series

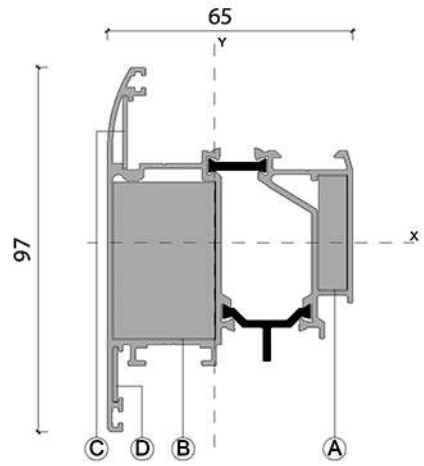
Profile & Accessories Information





I_X: 7.49 cm^4	I_Y: 17.91 cm^4	I_X: 27.62 cm^4	I_Y: 30.97 cm^4
Frame : ALN-415	A: PCP-22/19 mm	Sash : ALN-402	A: PCP-42 / 26 mm
	B: PCP-22/9 mm		B: PCP-30 / 7 mm
Weight : 1191gr/m	C: fuji 2000	Weight: 1640 gr/m	C: fuji 2000
	D: MO 19		D: MM77

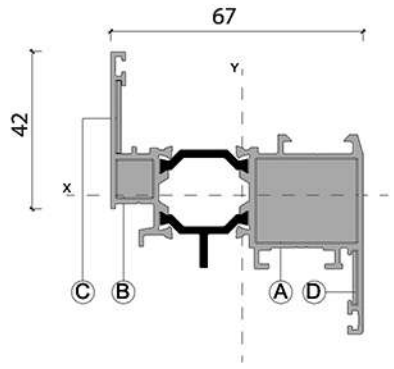


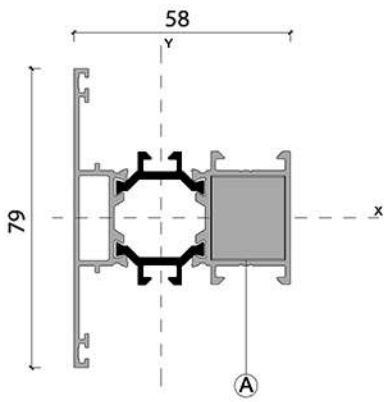


I_X: 11.21 cm^4	I_Y: 24.05 cm^4	I_X: 29.94 cm^4	I_Y: 30.41 cm^4
Sash : ALN-401	A: PCP-22 / 26 mm	Sash : ALN-403	A: PCP-30 / 7 mm
	B: PCP-10 / 7 mm		B: PCP-42 / 26 mm
Weight: 1334 gr/m	C: fuji 2000	Weight: 1706 gr/m	C: fuji 2000
	D: MM77		D: MM77

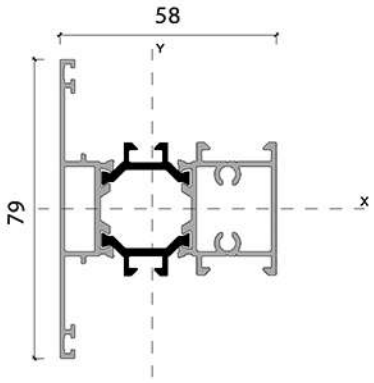
Hinged System 60 Series

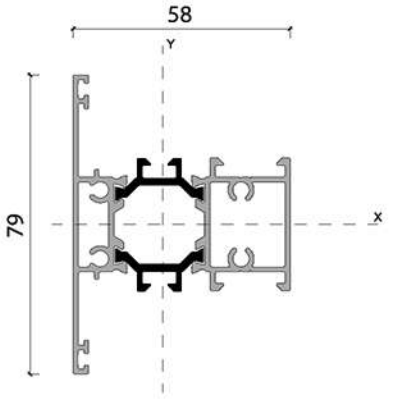
Profile & Accessories Information





I_X: 10.27 cm^4	I_Y: 25.02 cm^4	I_X: 10.97 cm^4	I_Y: 17.85 cm^4
Sash : ALN-416	A: PCP-22 / 26 mm B: PCP-10 / 9 mm	Transom : ALN-406	A: ALN-445
Weight : 1327 gr/m	C: fuji 2000 D: MM 77	Weight : 1275 gr/m	

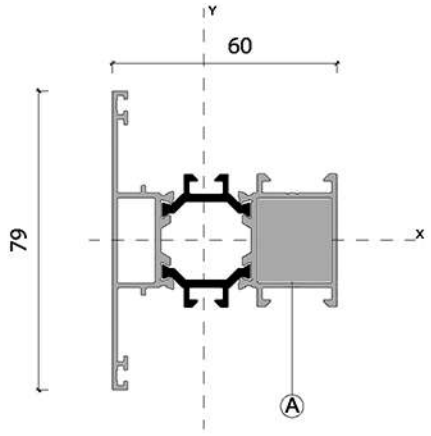


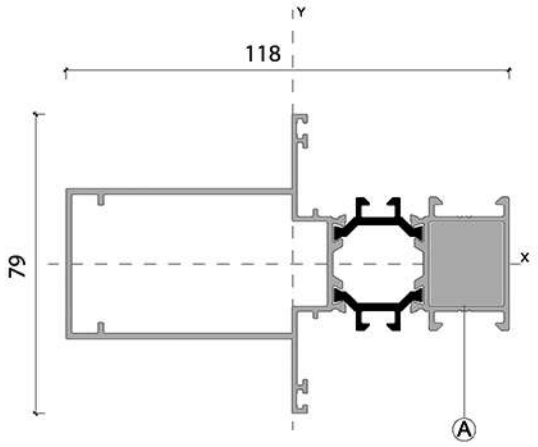


I_X: 11.20 cm^4	I_Y: 19.08 cm^4	I_X: 11.33 cm^4	I_Y: 19.67 cm^4
Transom : ALN-404	A: –	Transom : ALN-407	A: –
Weight: 1353 gr/m	B: –	Weight : 1406 gr/m	B: –

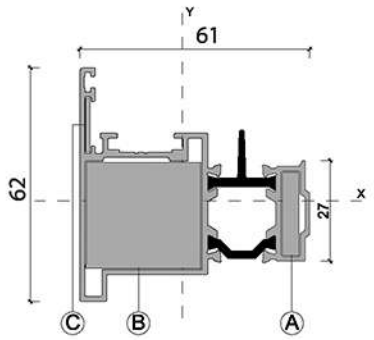
Hinged System 60 Series

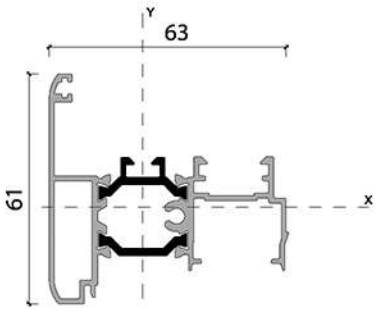
Profile & Accessories Information





I_X: 11.04 cm⁴	I_Y: 19.22 cm⁴	I_X: 18.41 cm⁴	I_Y: 82.72 cm⁴
Transom: ALN-417	A: ALN-445	Transom : ALN-420	A: ALN-445
Weight : 1092 gr/m	B: –	Weight : 1867 gr/m	B: –

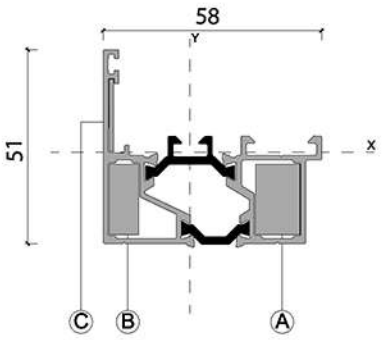




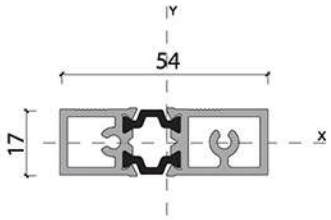
I_X: 8.61 cm⁴	I_Y: 17.92 cm⁴	I_X: 6.85 cm⁴	I_Y: 16.75 cm⁴
Pivot : ALN-411	A: PCP-22 / 4 mm	Profile : ALN-405	A: –
Weight : 1232 gr/m	B: PCP-28 / 30 mm C: MM77 (AKW-810)	Weight : 1196 gr/m	B: –

Hinged System 60 Series

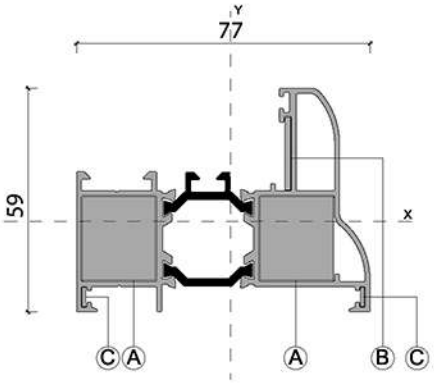
Profile & Accessories Information



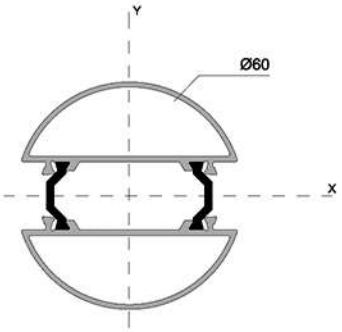
I_X: 5.52 cm^4	I_Y: 13.29 cm^4		
Profile : ALN-418	A: PCP-19 / 11 mm		
	B: PCP-19 / 7 mm		
Weight : 1101 gr/m	C: fuji 2000		



I_X: 1.19 cm^4	I_Y: 10.46 cm^4		
Profile : ALN-419	A: –		
	B: –		
Weight : 1016 gr/m	C: –		



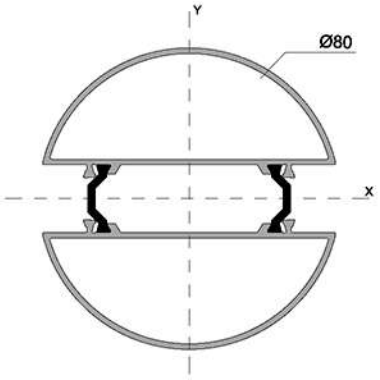
I_X: 11.62 cm^4	I_Y: 29.73 cm^4		
Profile : ALN-466	A: PCP-22 / 19 mm		
	B: fuji 2000		
Weight : 1435 gr/m	C: MO 19		

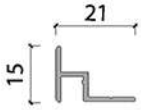


I_X: 12.02 cm^4	I_Y: 12.13 cm^4		
Coupling : ALN-413	A: –		
Weight : 1214 gr/m	B: –		

Hinged System 60 Series

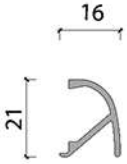
Profile & Accessories Information



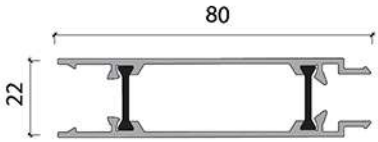


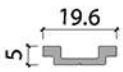
I_X: 30.79 cm^4	I_Y: 33.53 cm^4	Profile : ALN-228	Weight: 135 gr/m

Coupling : ALN-414	A: –
Weight : 1720 gr/m	B: –



Profile : ALN-229	Weight: 192 gr/m

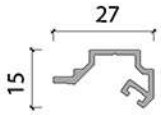
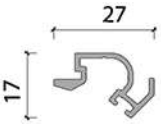
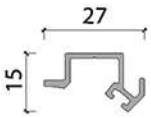
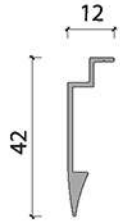
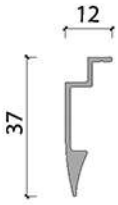
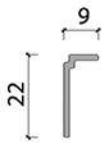




Profile : ALN-425	Weight: 691 gr/m	Profile : ALN-331	Weight: 140 gr/m

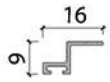
Hinged System 60 Series

Profile & Accessories Information

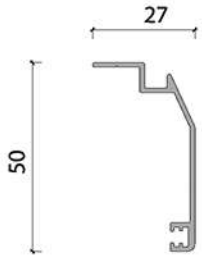
			
Profile : ALN-426	Weight: 208 gr/m	Profile : ALN-429	Weight: 235 gr/m
			
Profile : ALN-427	Weight: 208 gr/m	Profile : ALN-430	Weight: 230 gr/m
			
Profile : ALN-428	Weight: 219 gr/m	Profile : ALN-442	Weight: 118 gr/m

Hinged System 60 Series

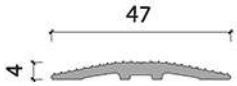
Profile & Accessories Information



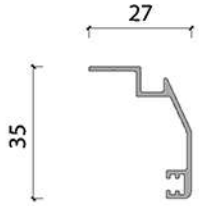
Profile : ALN-443	Weight : 75.6 gr/m



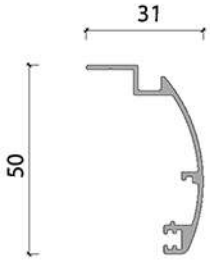
Flange profile: ALN-221	Weight : 302 gr/m



Profile : ALN-444	Weight : 344 gr/m



Flange profile: ALN-222	Weight : 254 gr/m



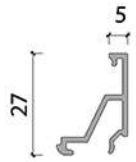
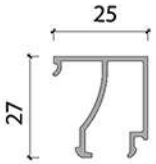
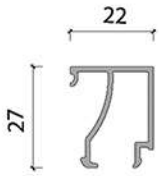
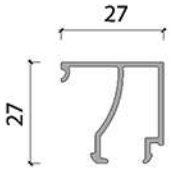
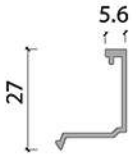
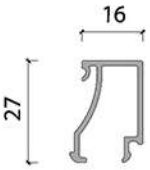
Flange profile: ALN-219	Weight : 362 gr/m



Transom bar profile: ALN-445	Weight : 742 gr/m

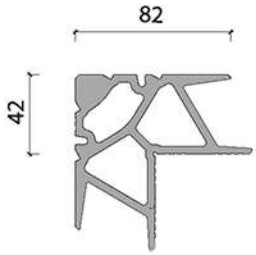
Hinged System 60 Series

Profile & Accessories Information

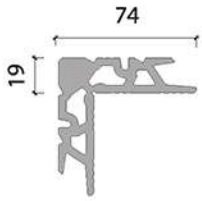
			
Glazing beads: ALN-321	Weight : 224 gr/m	Glazing beads: ALN-421	Weight : 313 gr/m
			
Glazing beads: ALN-323	Weight : 302 gr/m	Glazing beads: ALN-422	Weight : 321 gr/m
			
Glazing beads: ALN-424	Weight : 167 gr/m	Glazing beads: ALN-423	Weight : 281 gr/m

Hinged System 60 Series

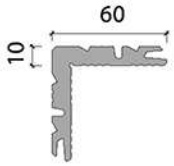
Profile & Accessories Information



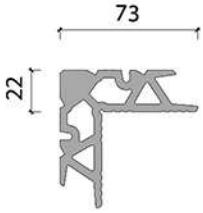
Corner Joint: PCP- 42	Weight : 5133 gr/m



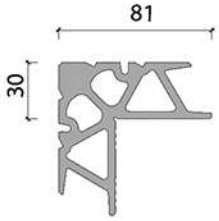
Corner Joint: PCP-19	Weight : 3499 gr/m



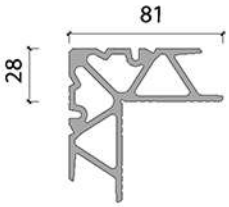
Corner Joint: PCP-10	Weight : 2454 gr/m



Corner Joint: PCP-22	Weight : 3718 gr/m



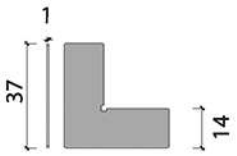
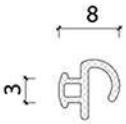
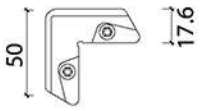
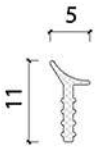
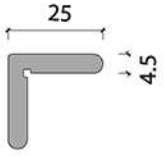
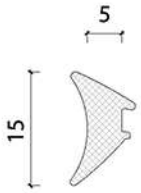
Corner Joint: PCP-30	Weight : 4539 gr/m



Corner Joint: PCP-28	Weight : 3429 gr/m

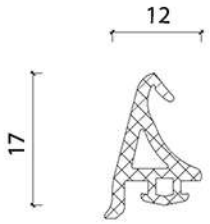
Hinged System 60 Series

Profile & Accessories Information

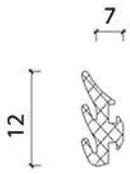
			
Corner Joint : MM 77	Weight : 126 gr/m	Gasket: EP-018	Weight : 27 gr/m
			
Corner Joint: fuji 2000	Weight : –	Gasket: EP-015	Weight : 21 gr/m
			
Corner Joint: MO19 (399012)	Weight: 533 gr/m	Gasket: EP-016	Weight : 77 gr/m

Hinged System 60 Series

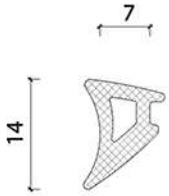
Profile & Accessories Information



Gasket: TH60	Weight : 101 gr/m



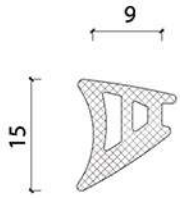
Gasket: MO68	Weight : 48 gr/m



Gasket: EP-019	Weight : 61 gr/m



PB7-3P-50-700	Weight: –



Gasket: EP-021	Weight : 80 gr/m



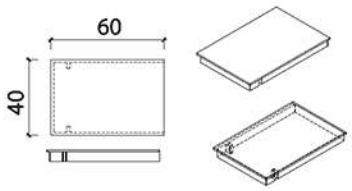
PB7-3P-70-1000	Weight: –

Hinged System 60 Series

Profile & Accessories Information



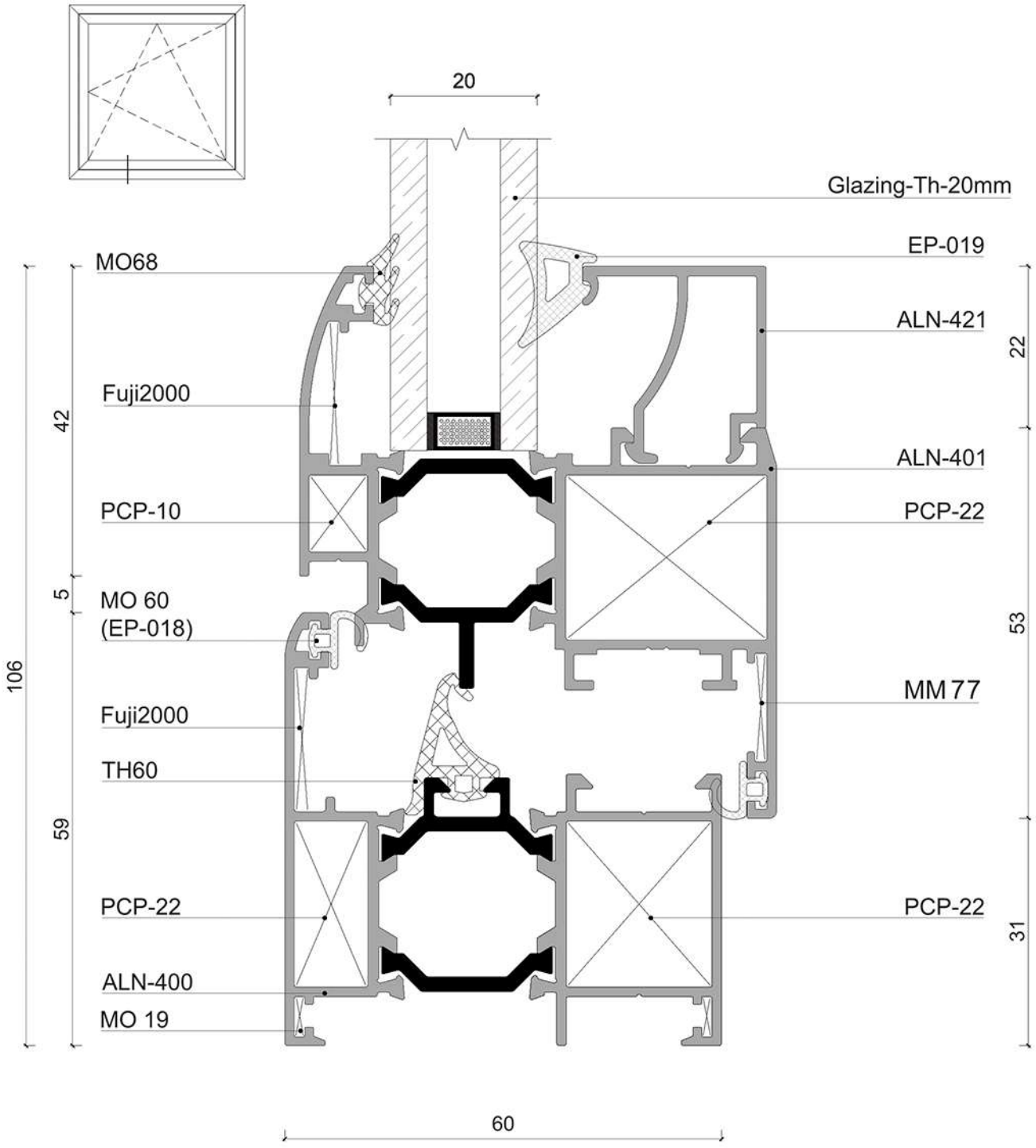
Gasket: mo 60	Weight : 26 gr/m



Cap : AKW-904	

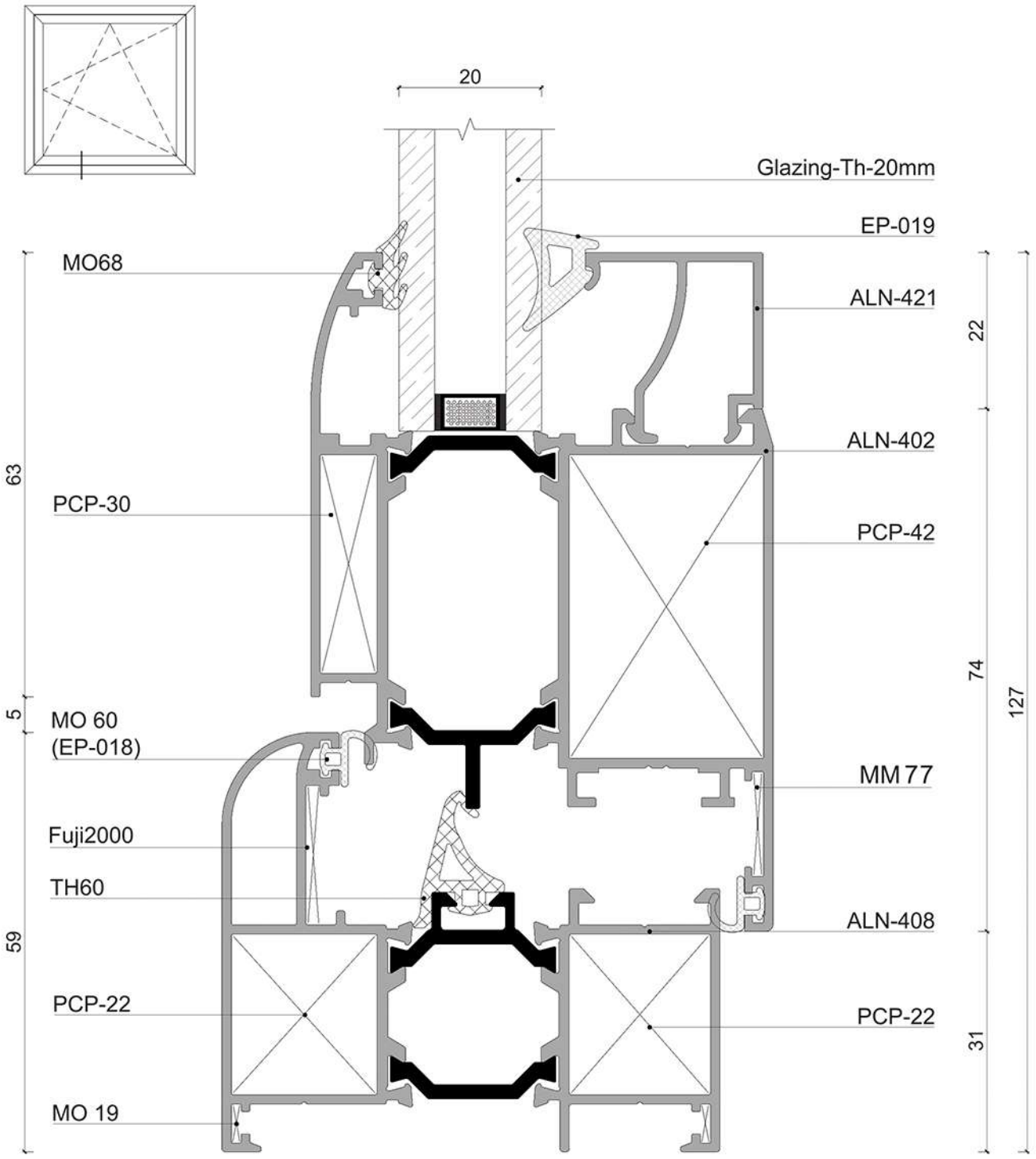
Hinged System 60 Series

Fabrication Detailes



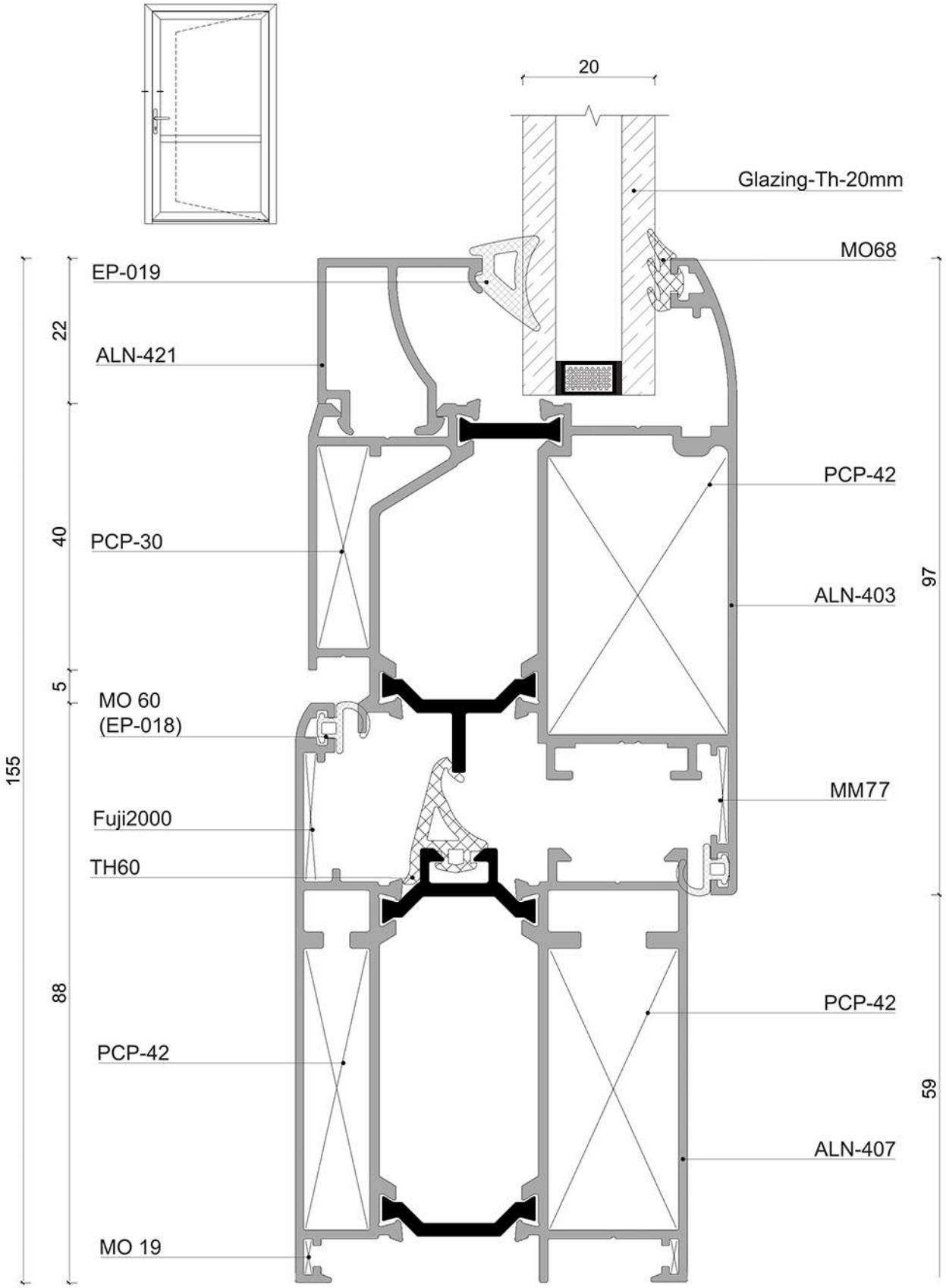
Hinged System 60 Series

Fabrication Detailes



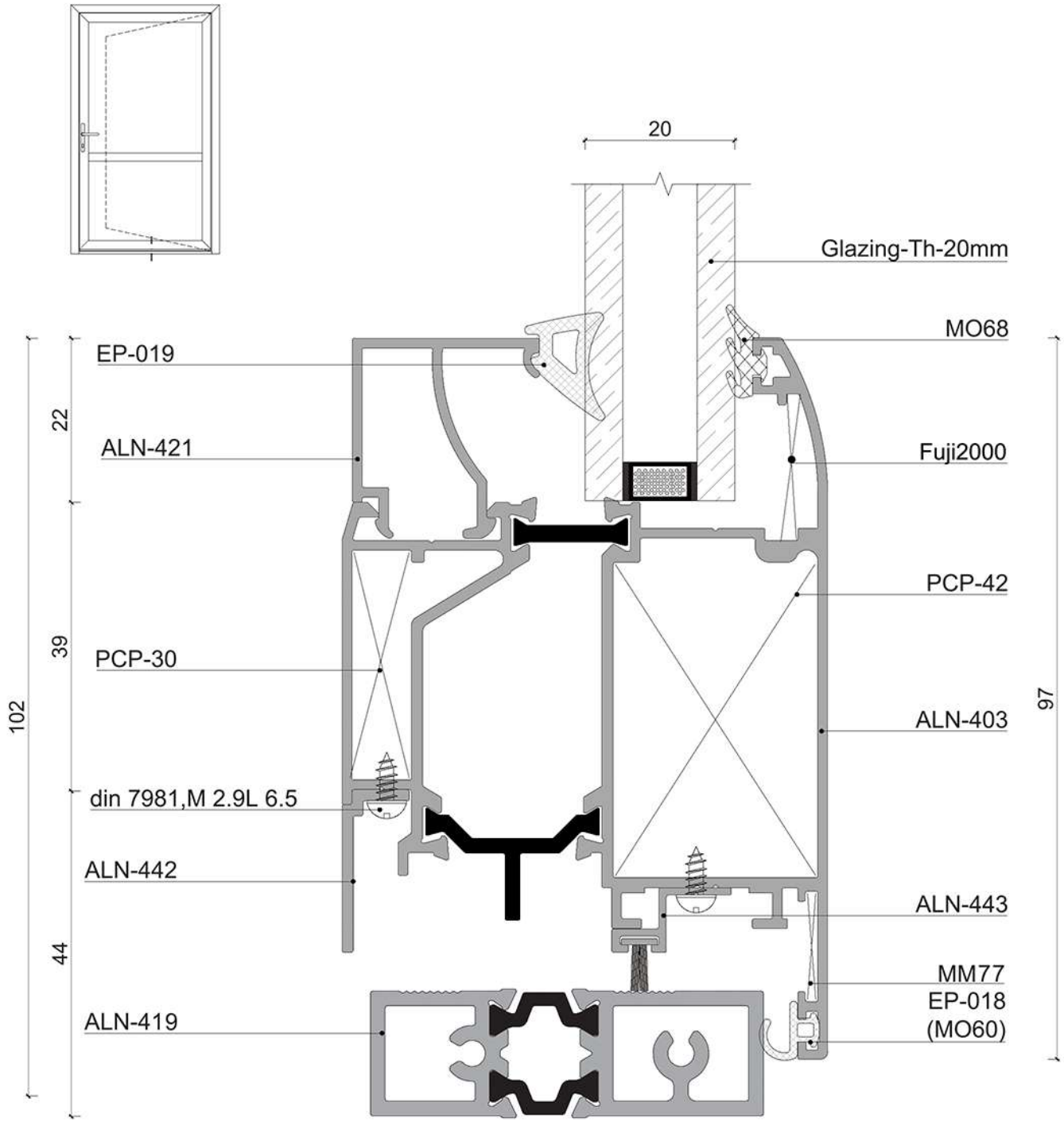
Hinged System 60 Series

Fabrication Detailes



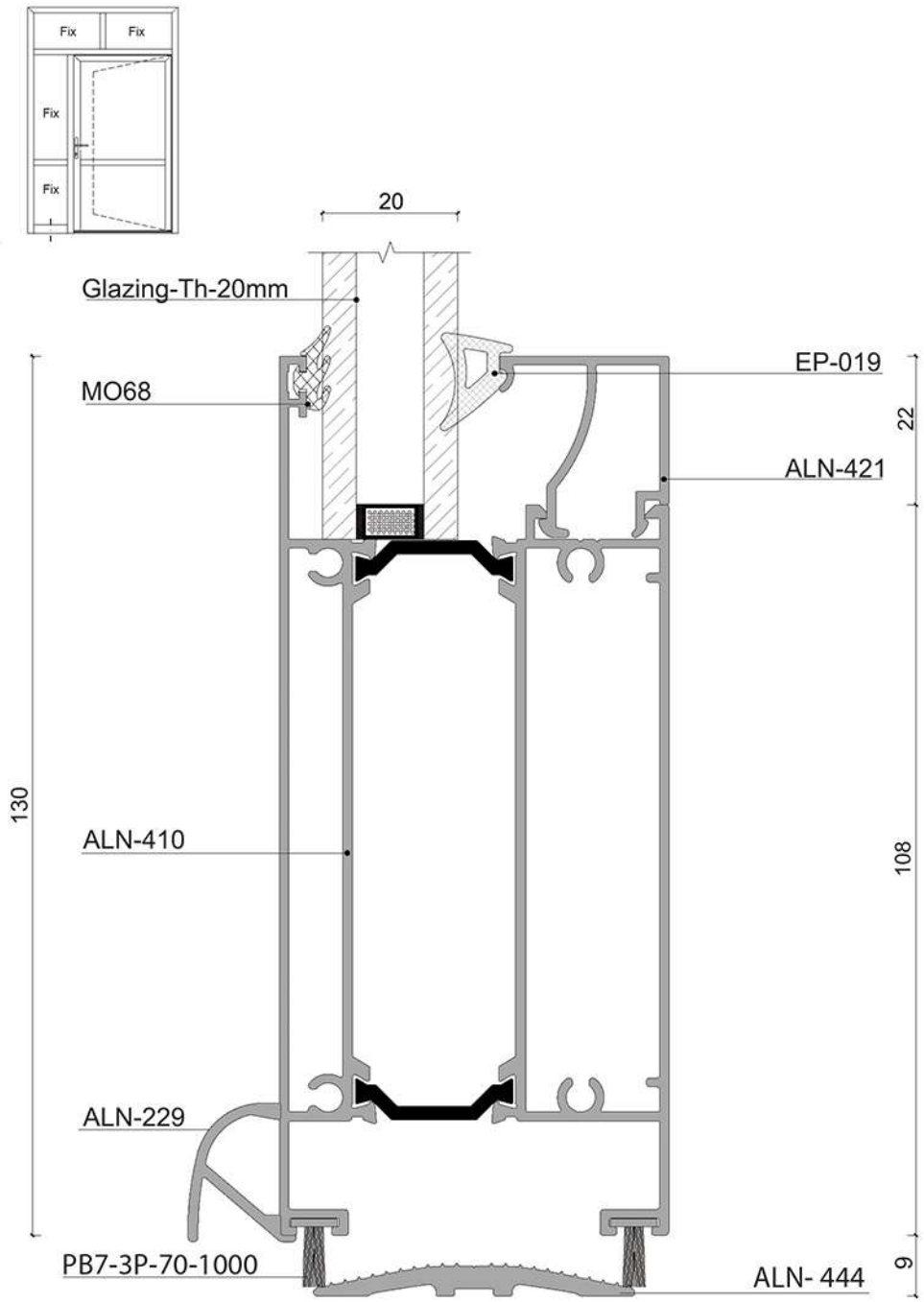
Hinged System 60 Series

Fabrication Detailes



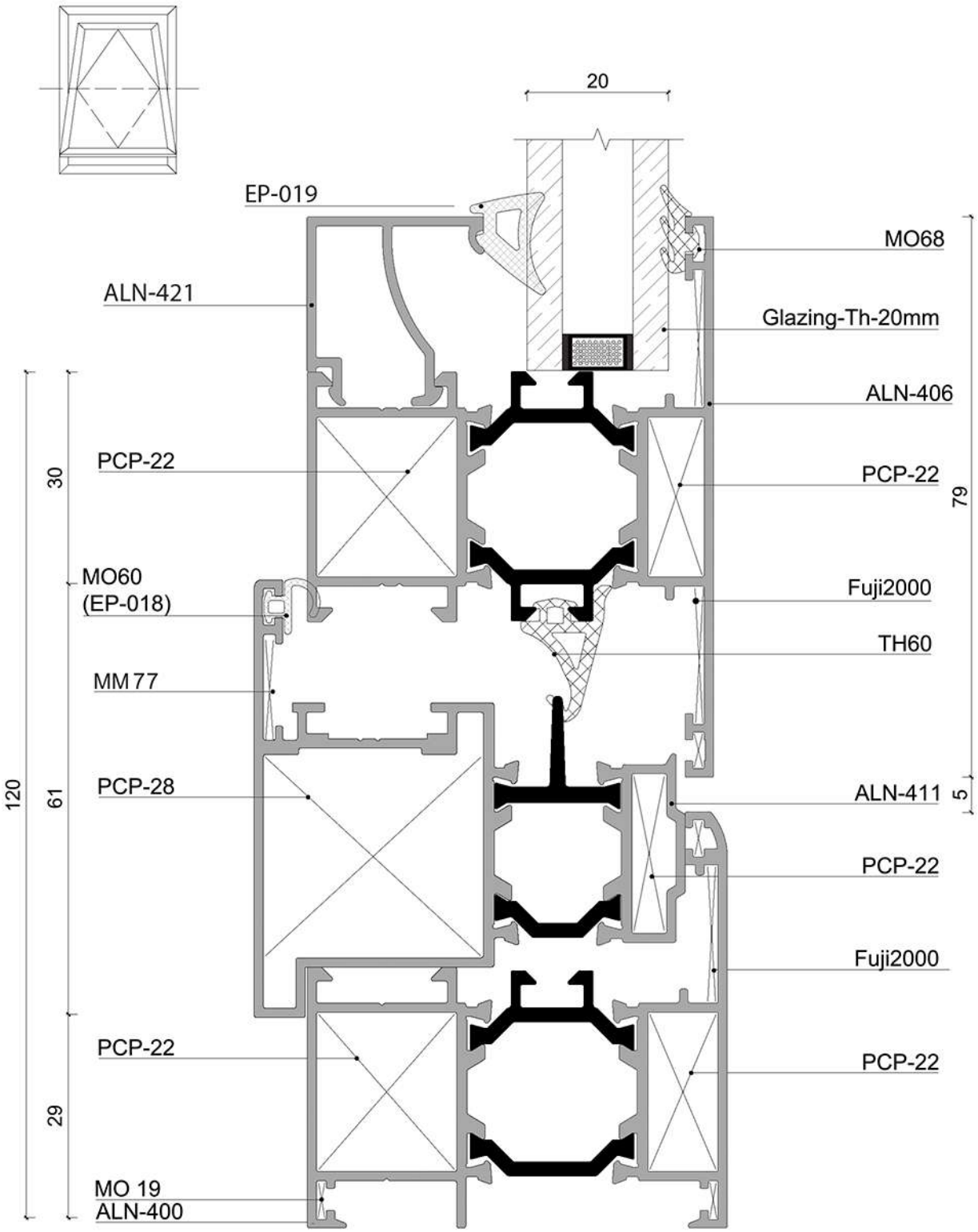
Hinged System 60 Series

Fabrication Detailes



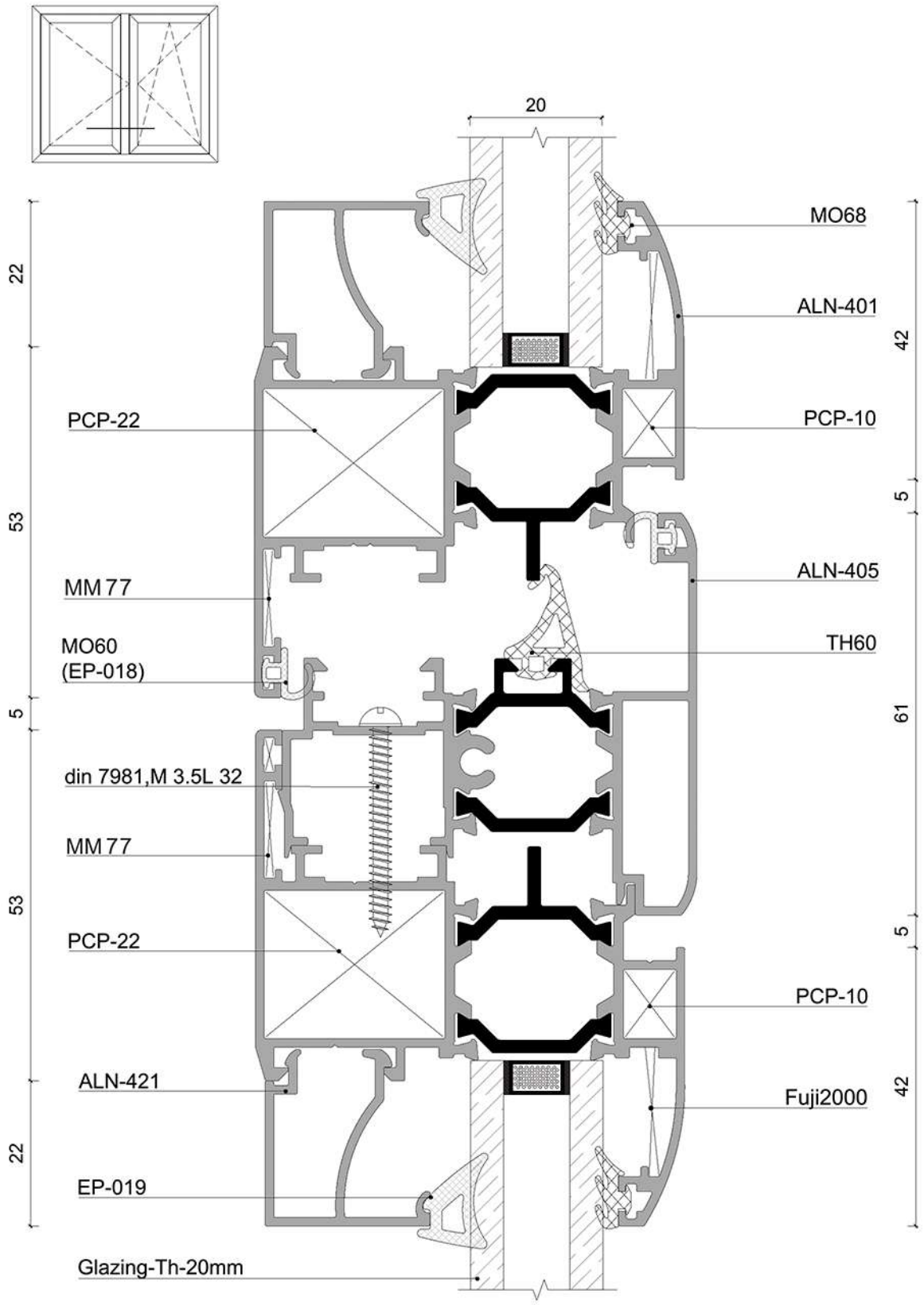
Hinged System 60 Series

Fabrication Detailes



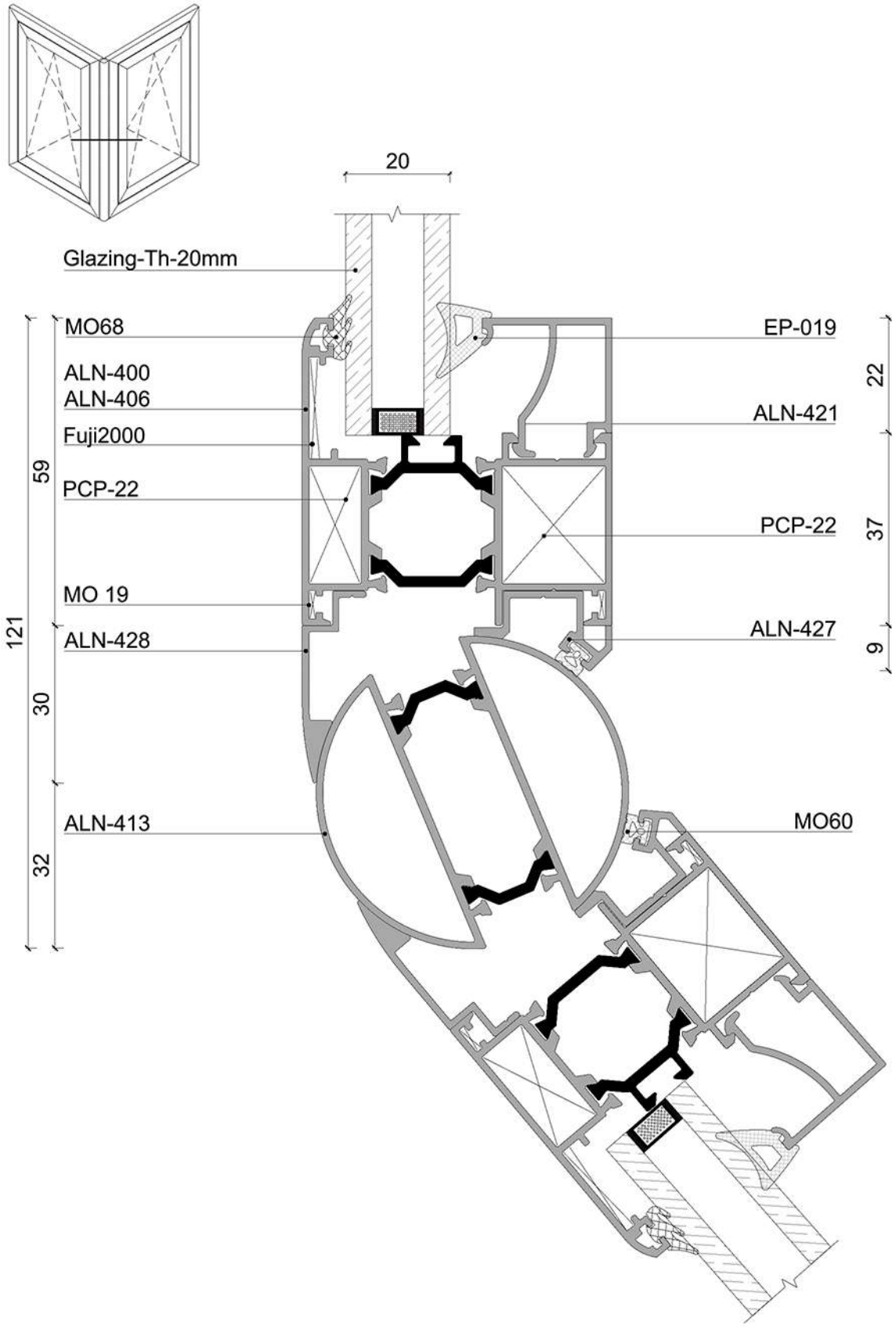
Hinged System 60 Series

Fabrication Detailes



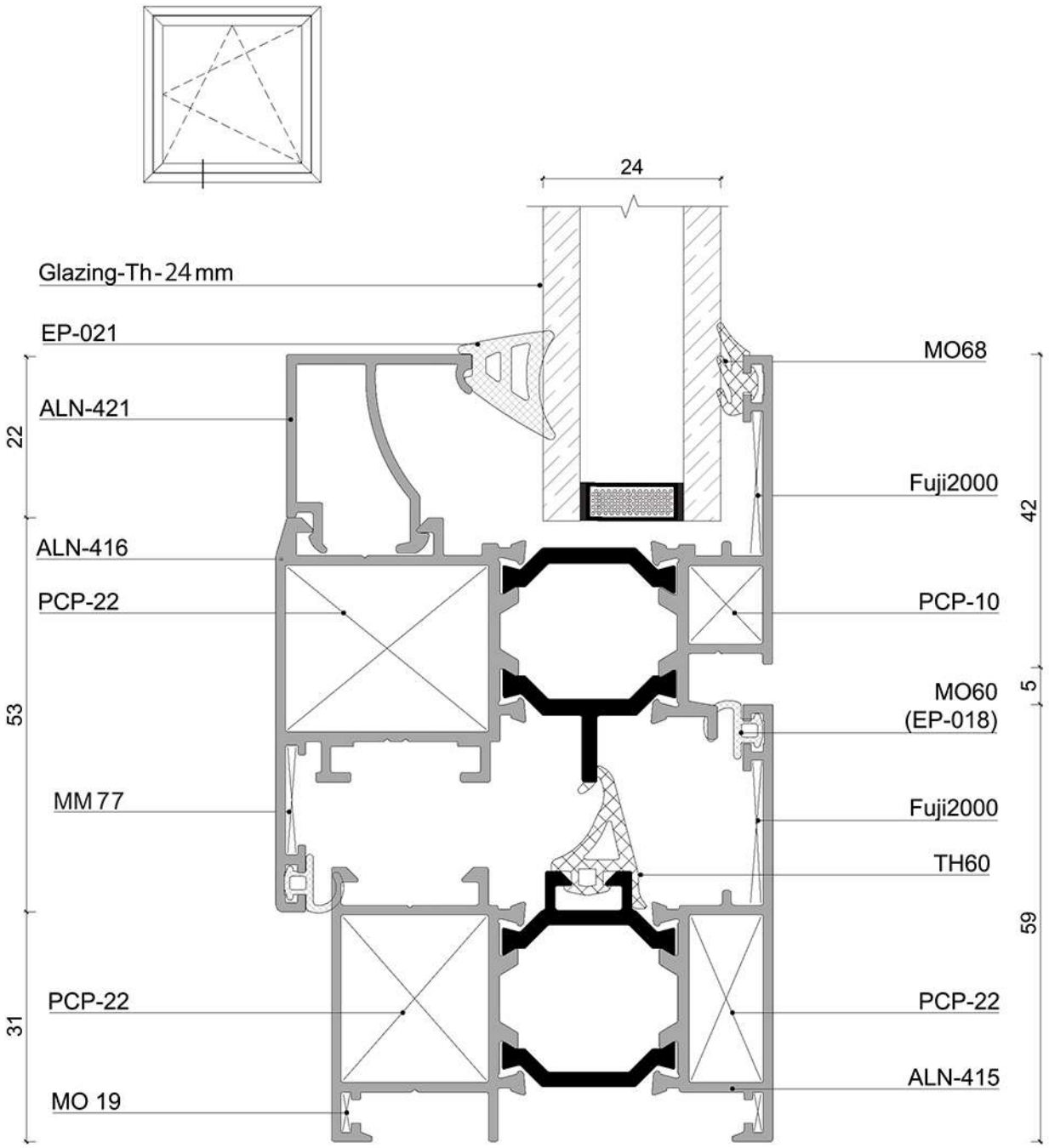
Hinged System 60 Series

Fabrication Detailes



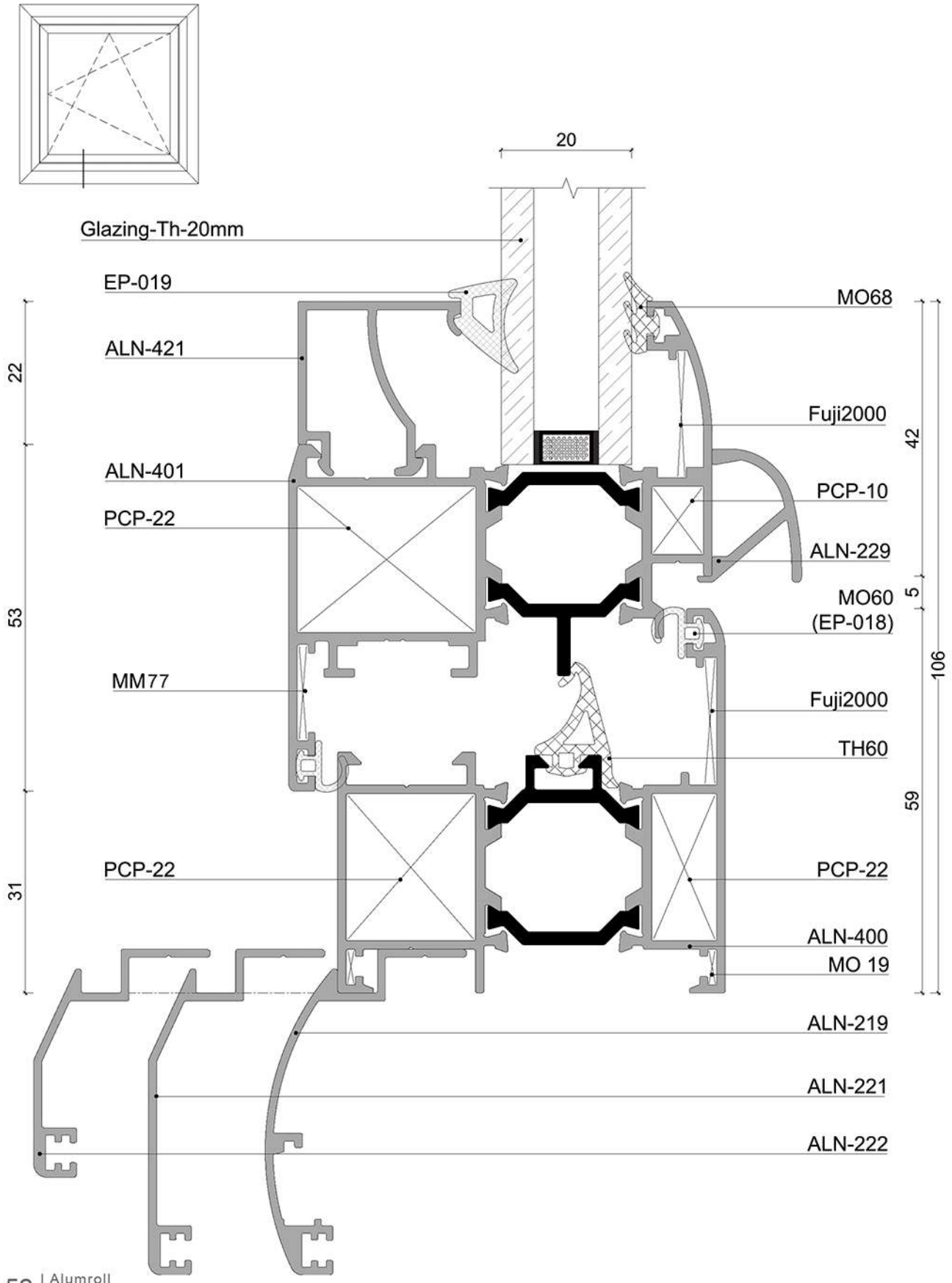
Hinged System 60 Series

Fabrication Detailes



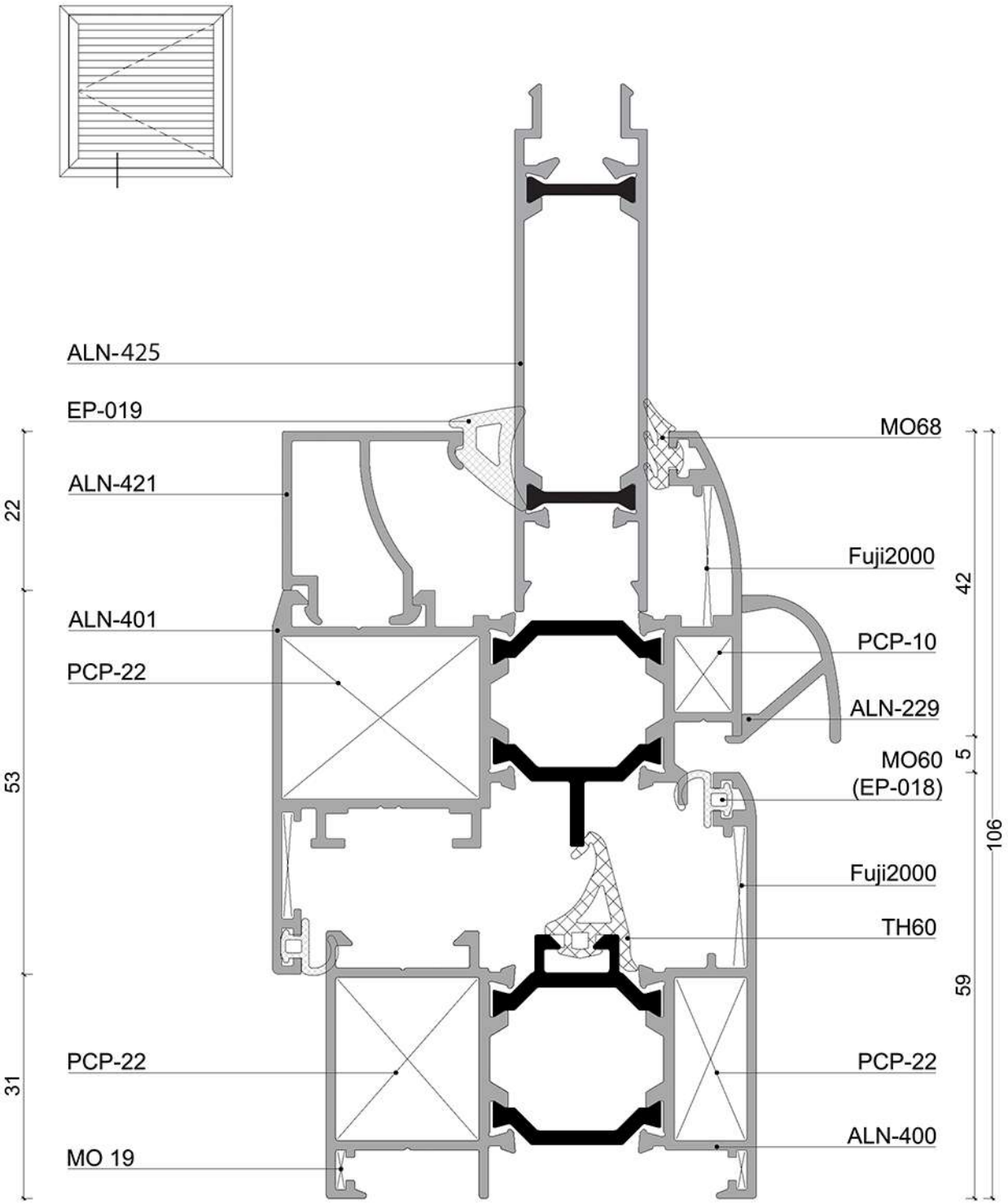
Hinged System 60 Series

Fabrication Detailes



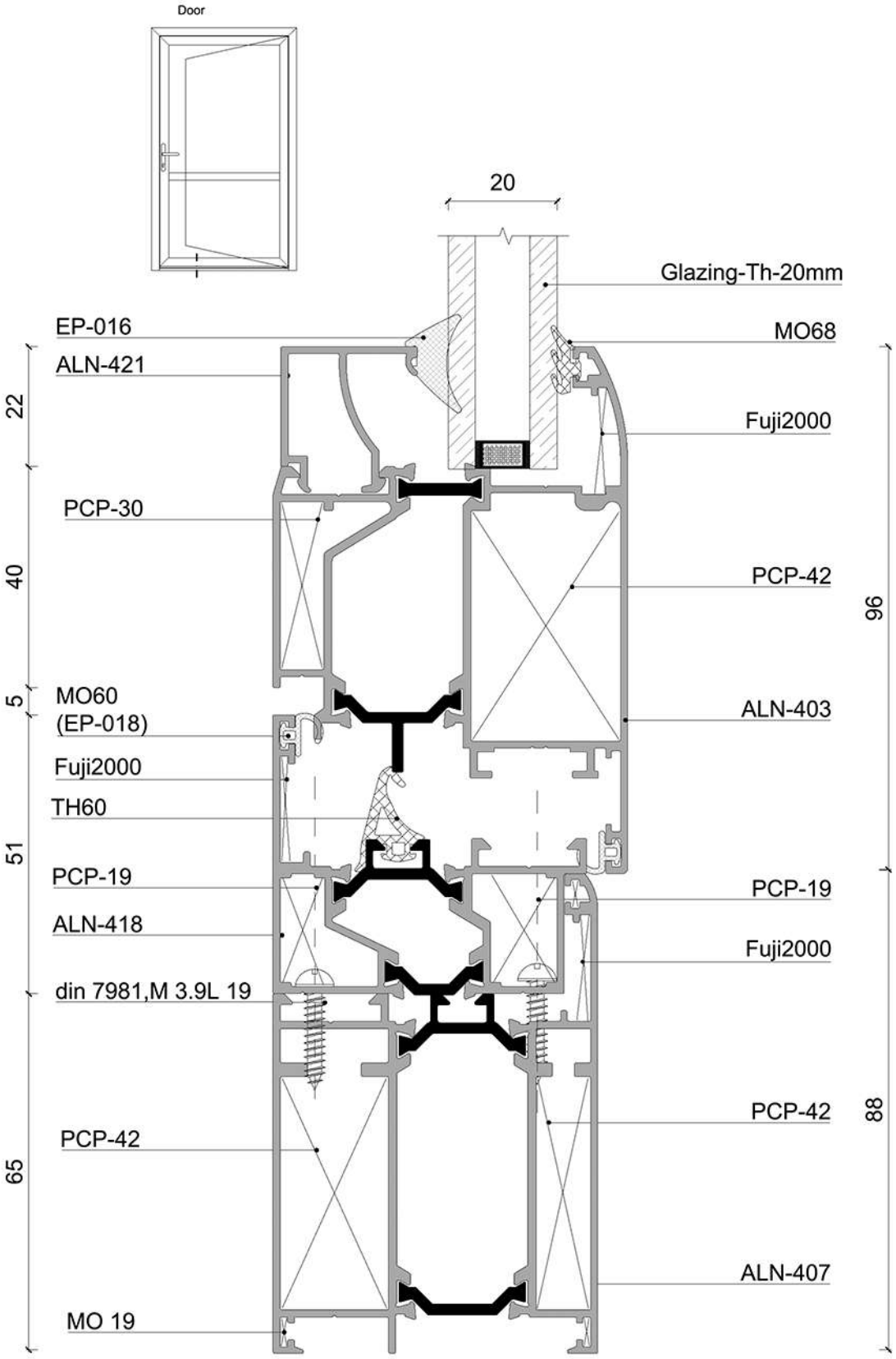
Hinged System 60 Series

Fabrication Detailes



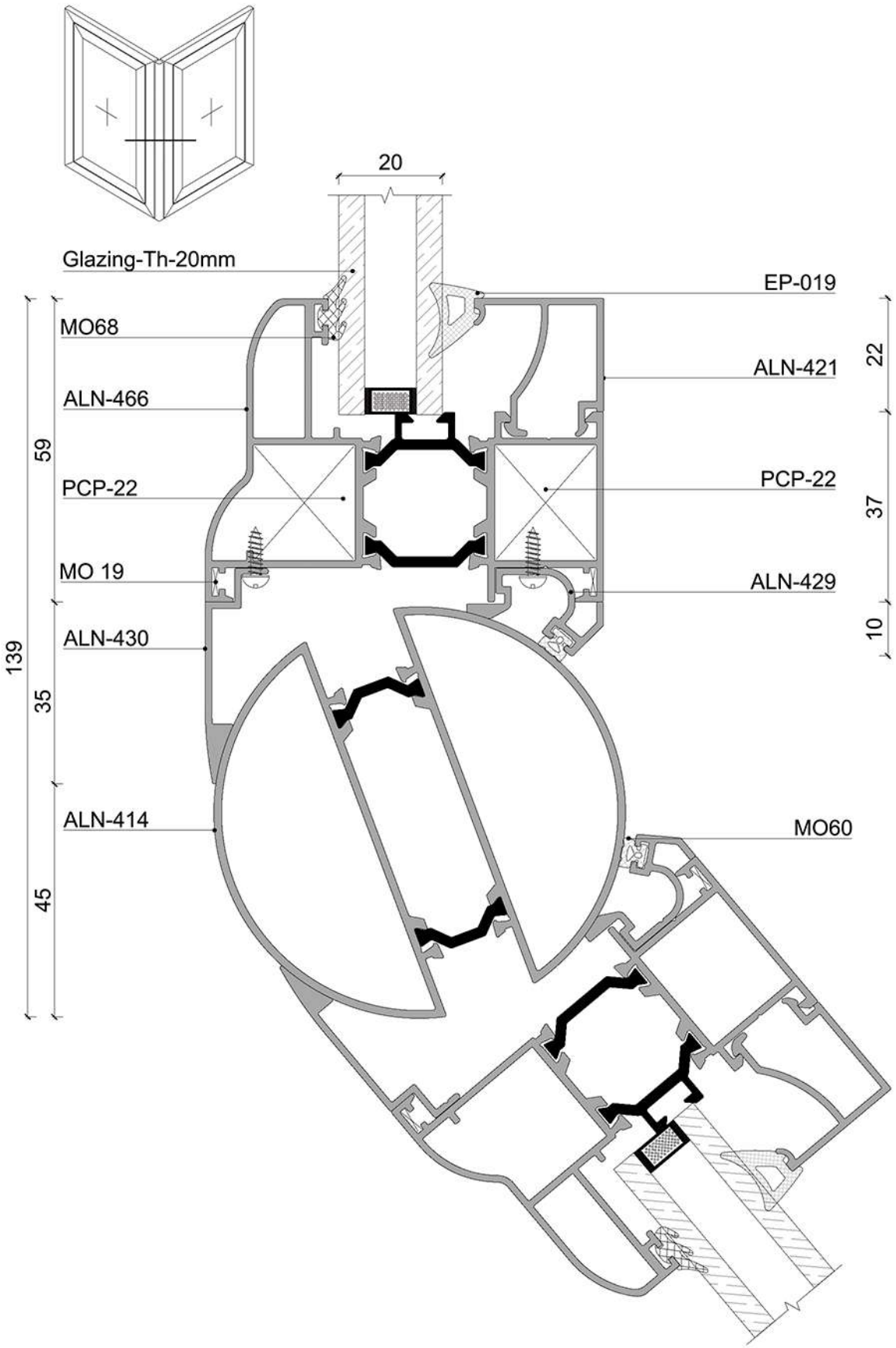
Hinged System 60 Series

Fabrication Detailes



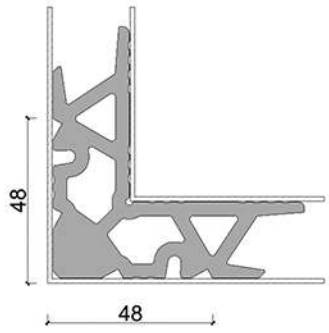
Hinged System 60 Series

Fabrication Detailes

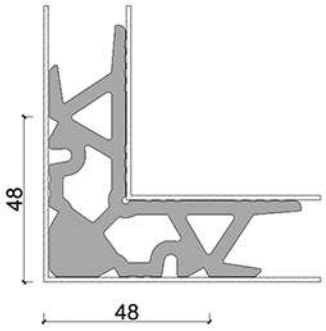


Hinged System 60 Series

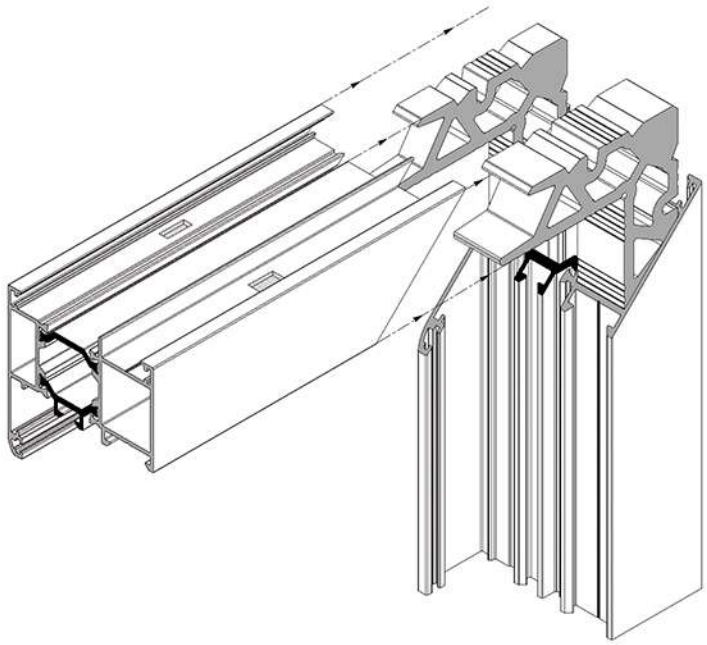
Assembly Drawing

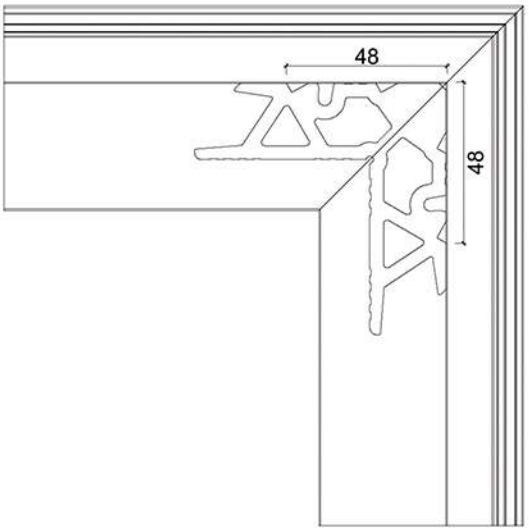


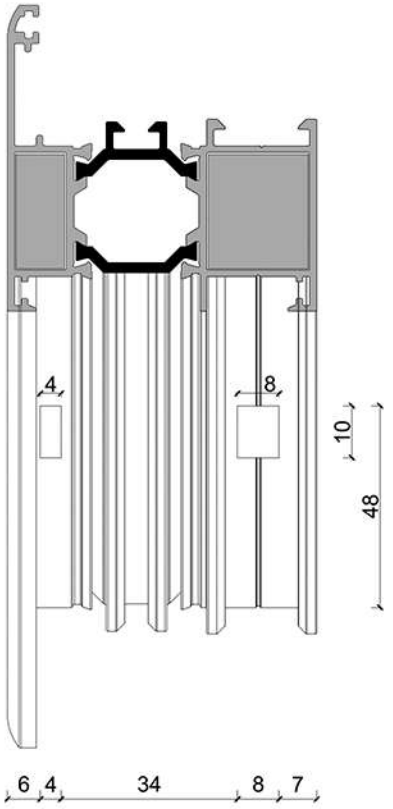
PCP-22 / 19



PCP-22 / 9

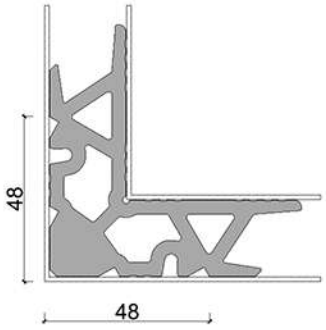




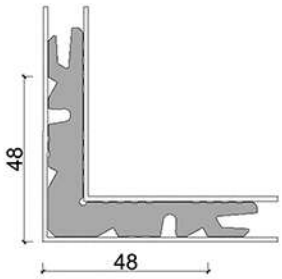


Hinged System 60 Series

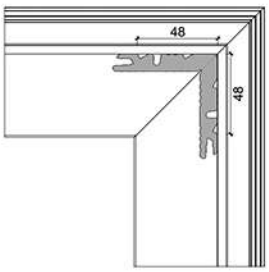
Assembly Drawing

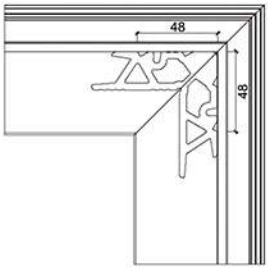


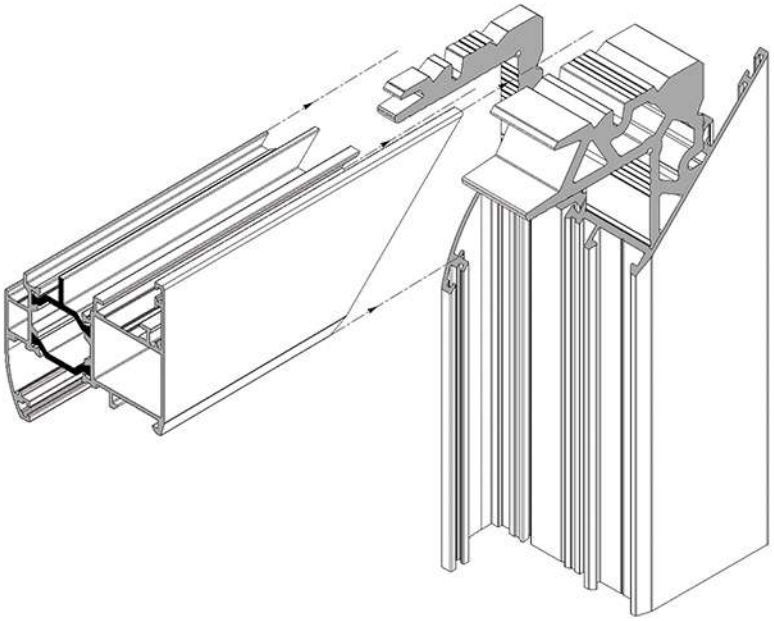
PCP-22 / 26

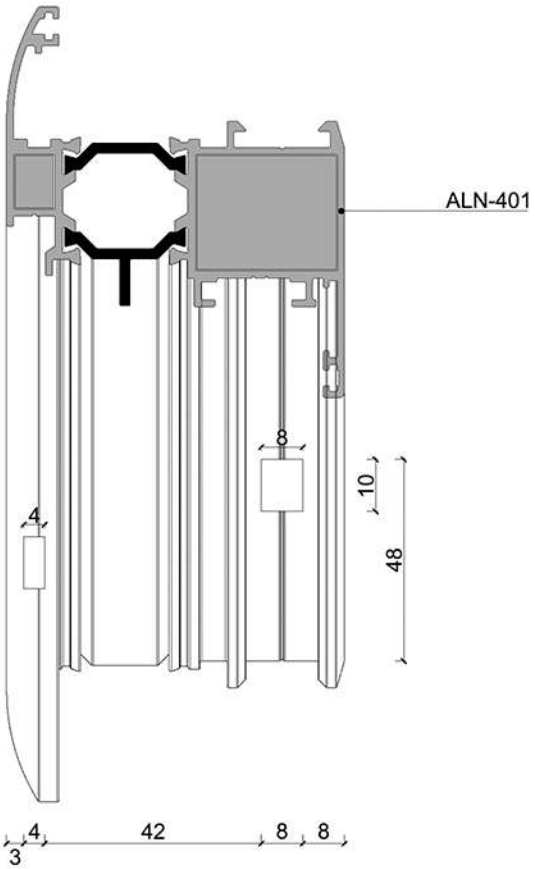


PCP-10 / 7





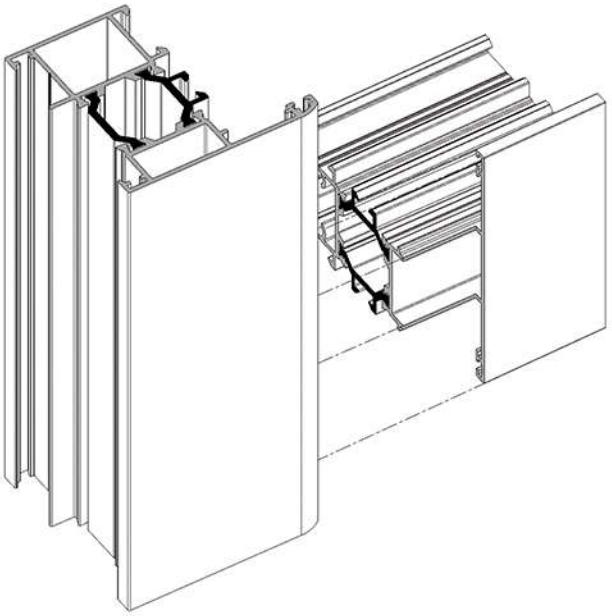


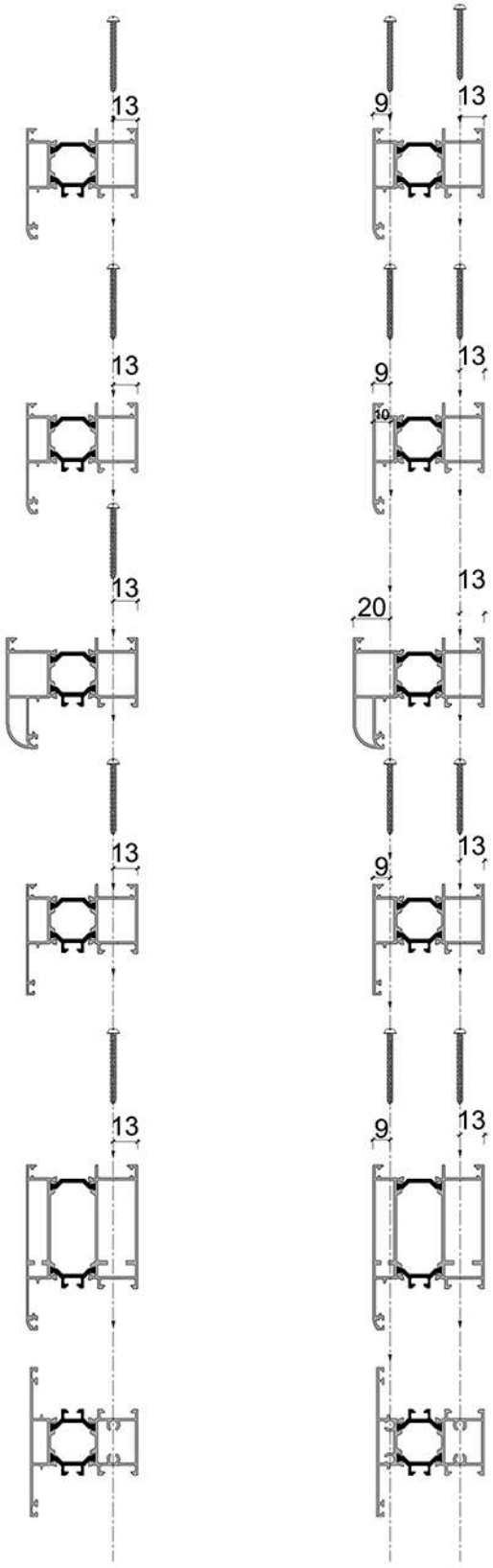


Hinged System 60 Series

Assembly Drawing

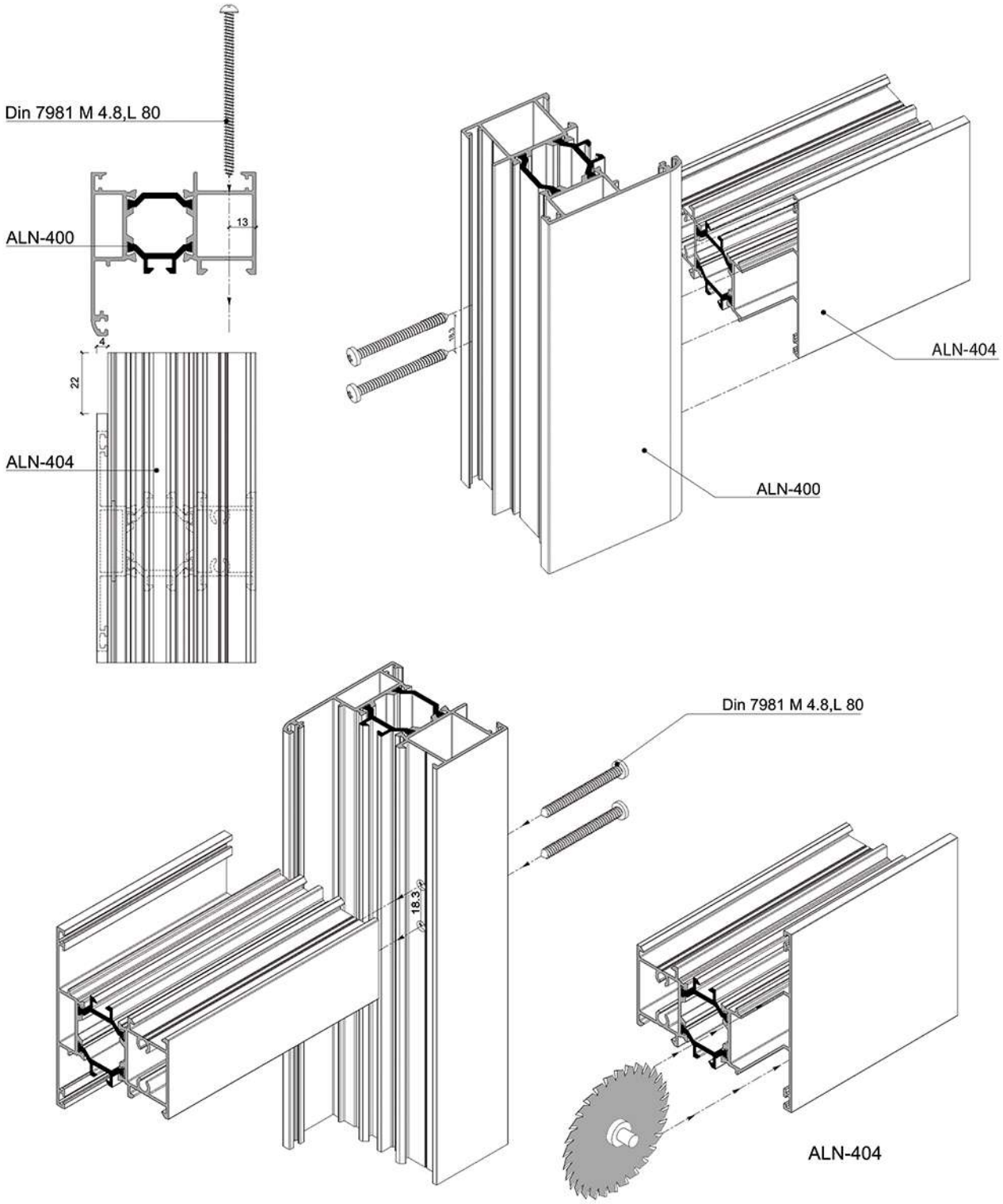
Connection - frame to transom





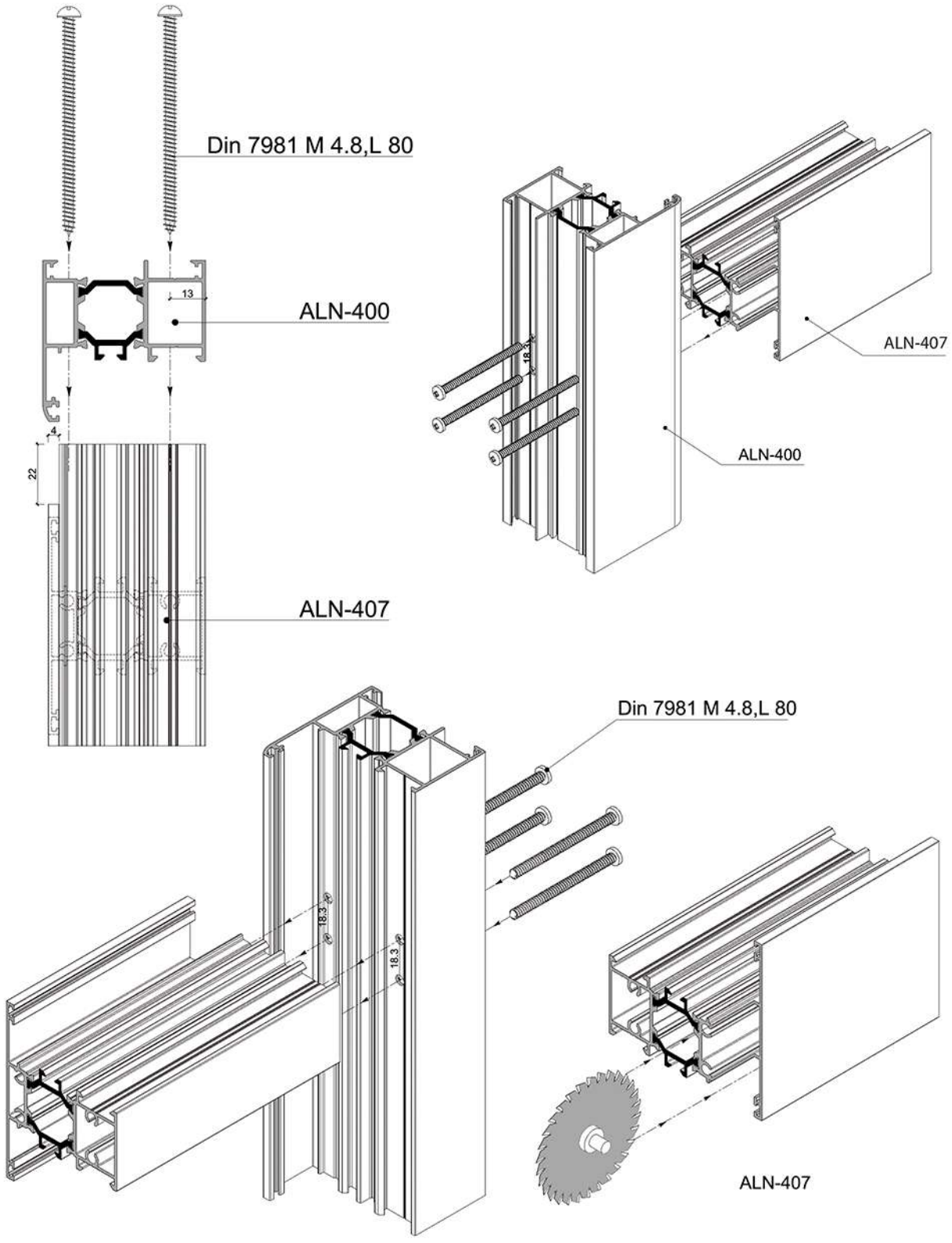
Hinged System 60 Series

Assembly Drawing



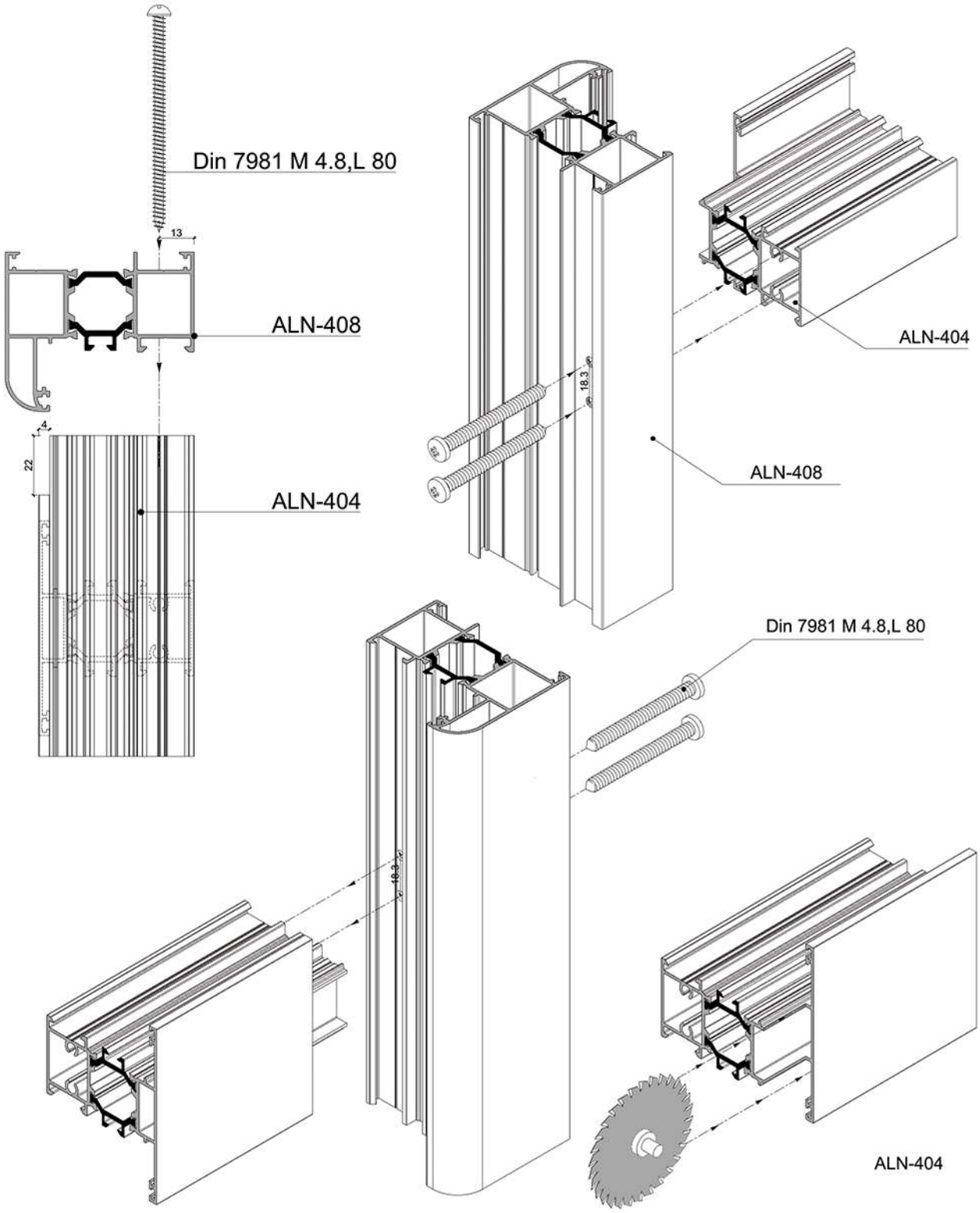
Hinged System 60 Series

Assembly Drawing



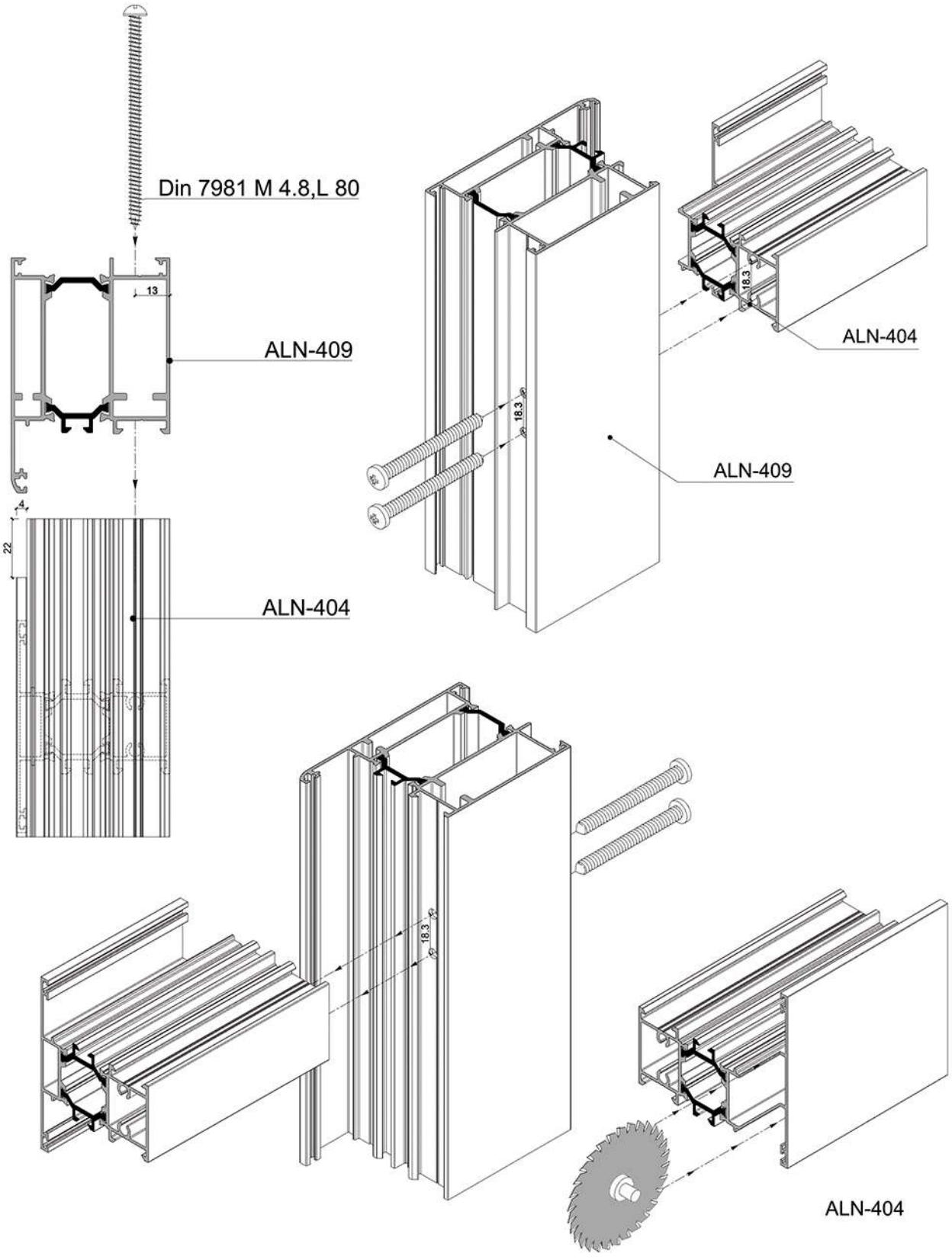
Hinged System 60 Series

Assembly Drawing



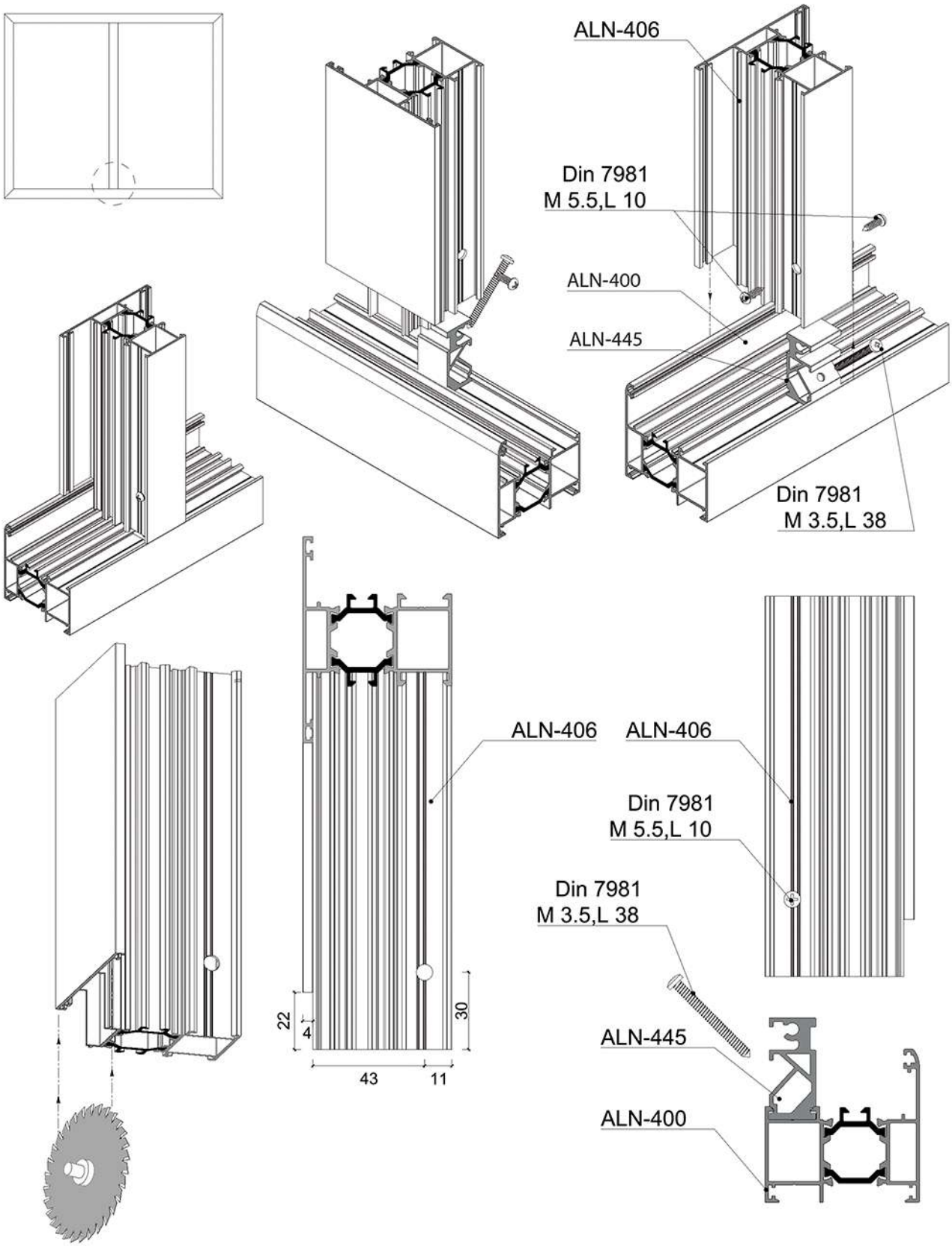
Hinged System 60 Series

Assembly Drawing



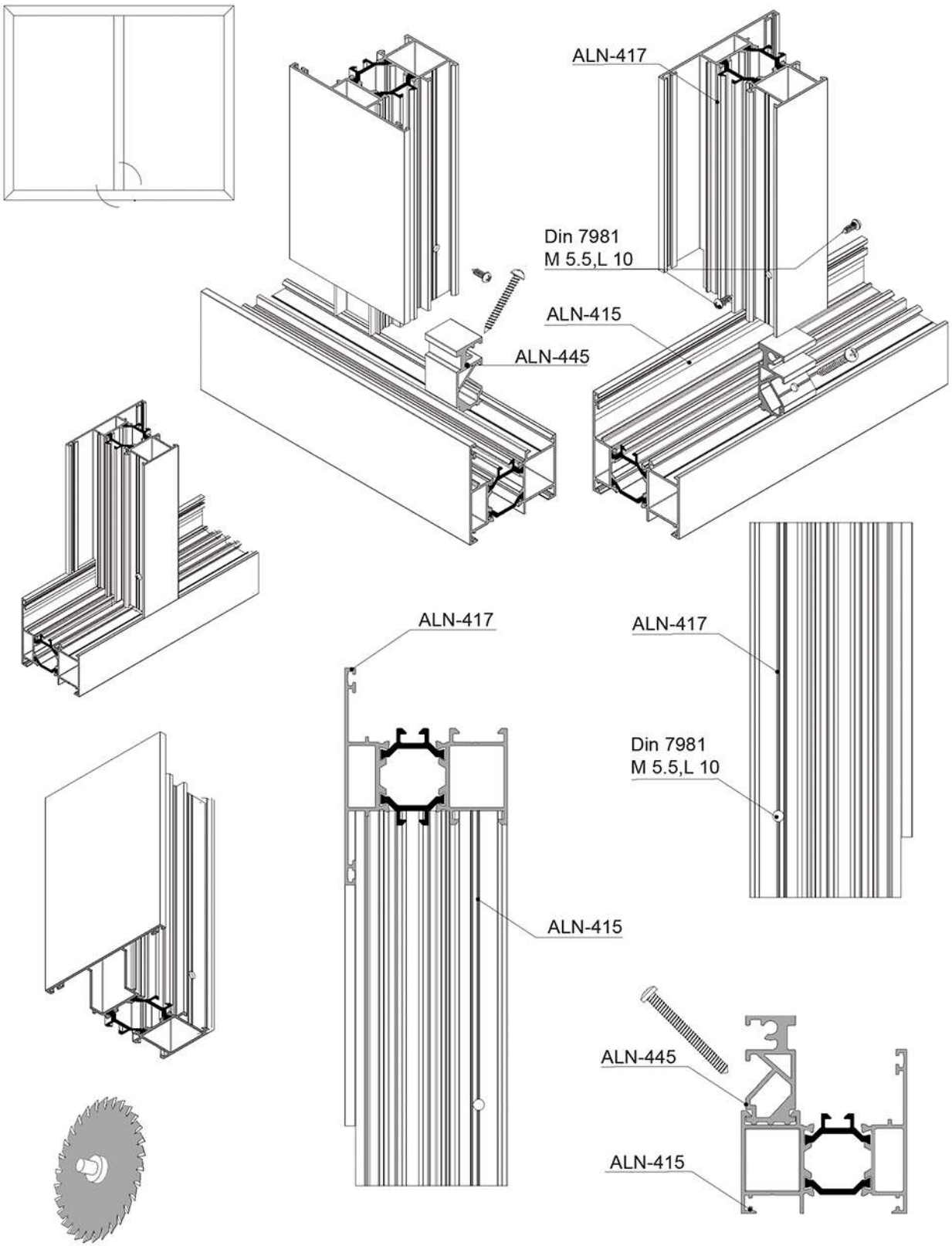
Hinged System 60 Series

Assembly Drawing



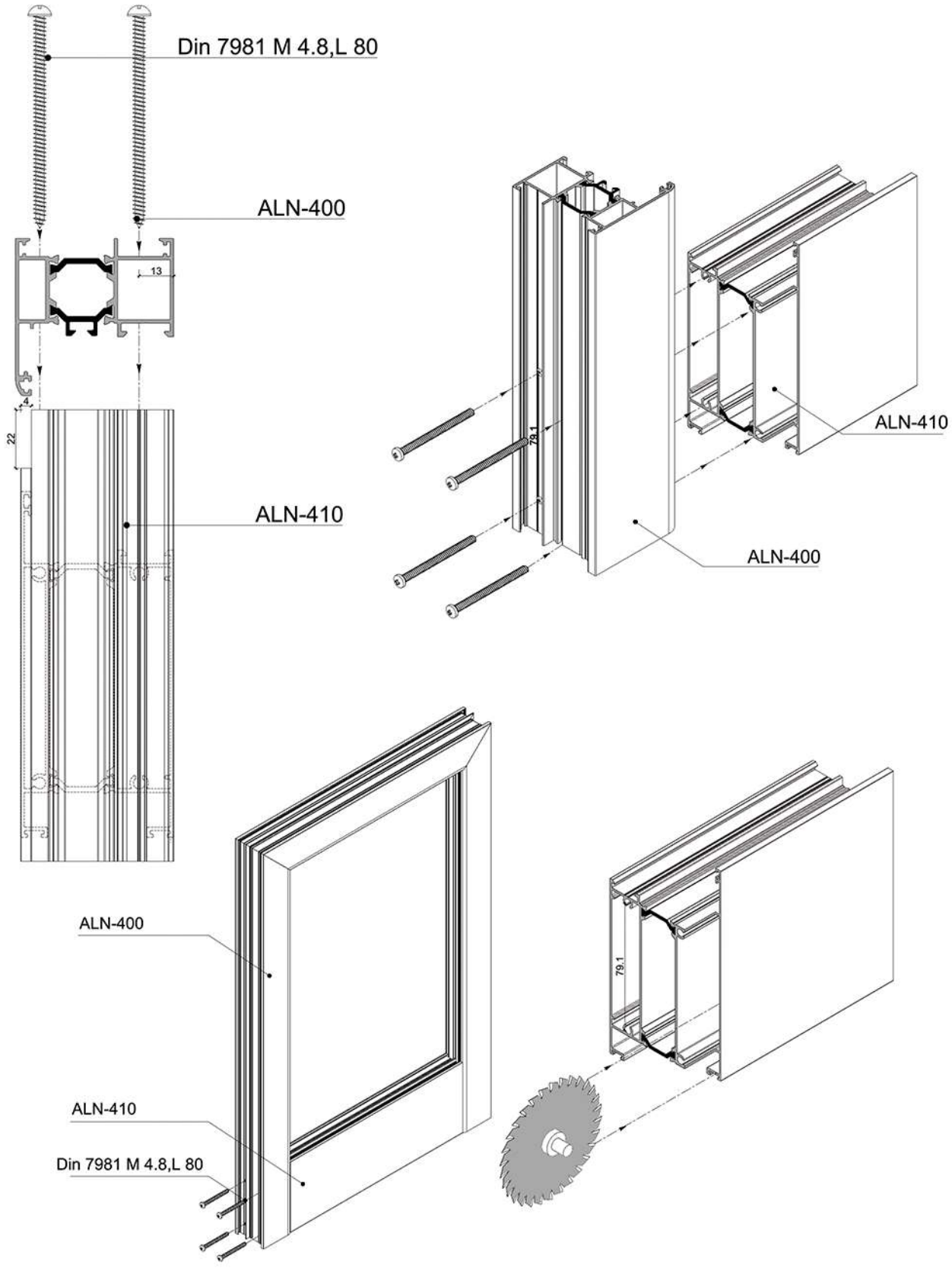
Hinged System 60 Series

Assembly Drawing



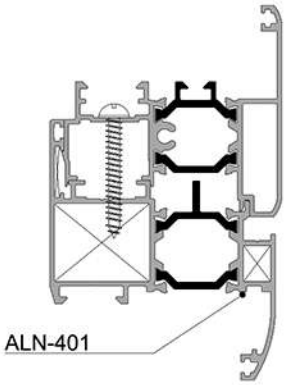
Hinged System 60 Series

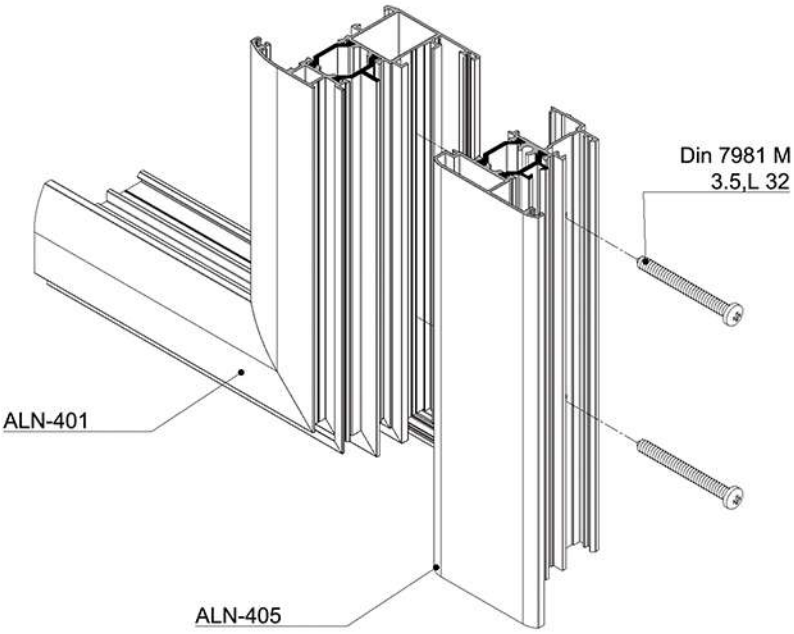
Assembly Drawing

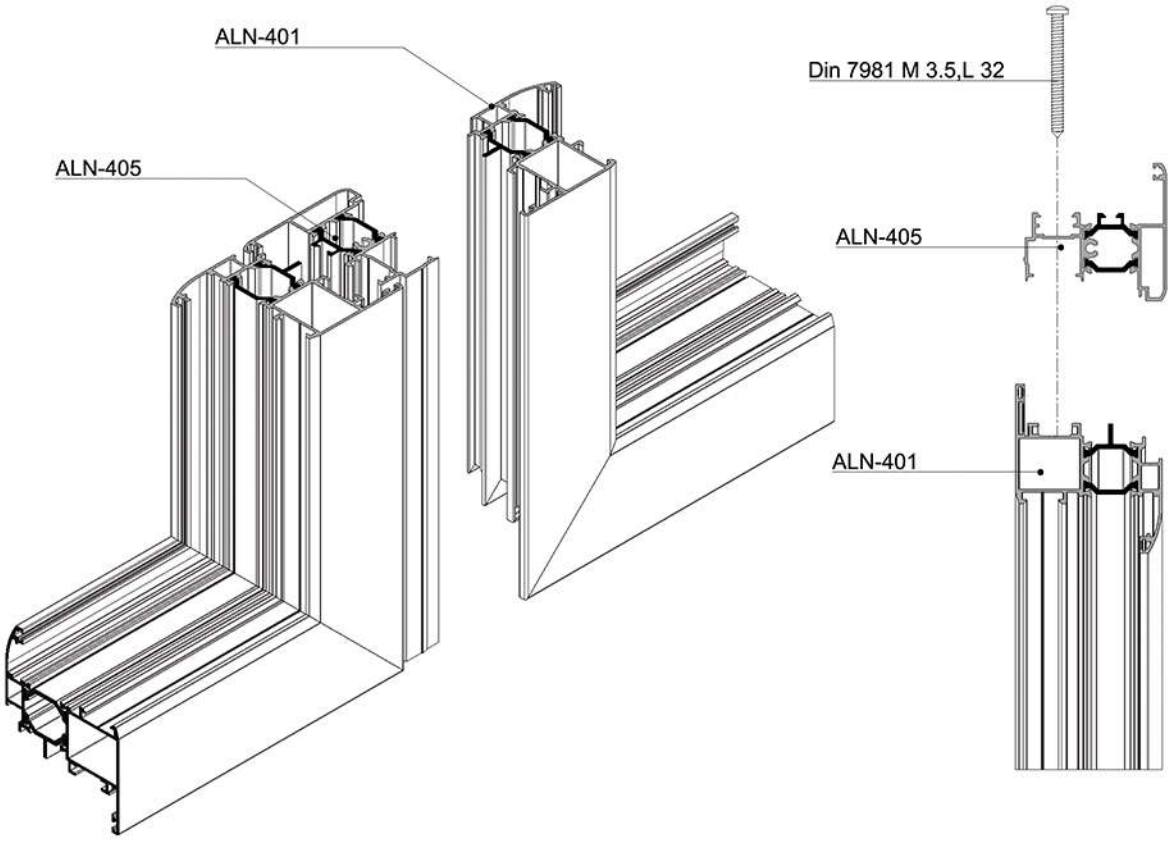


Hinged System 60 Series

Assembly Drawing

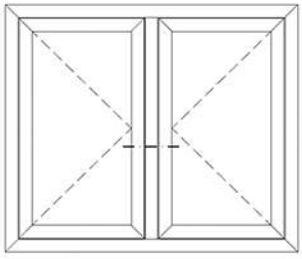


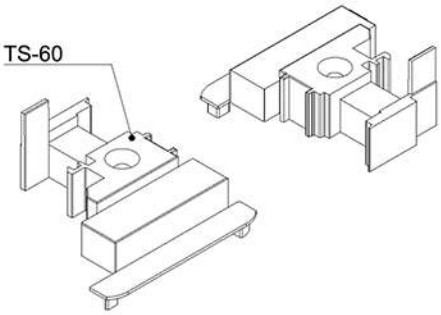


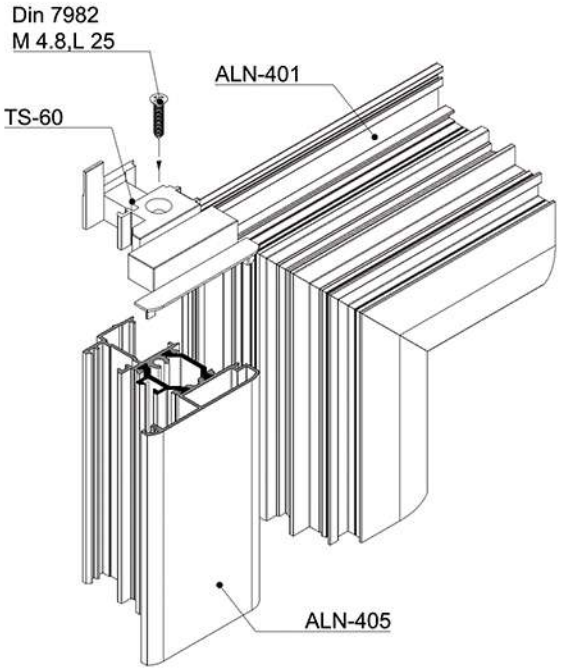


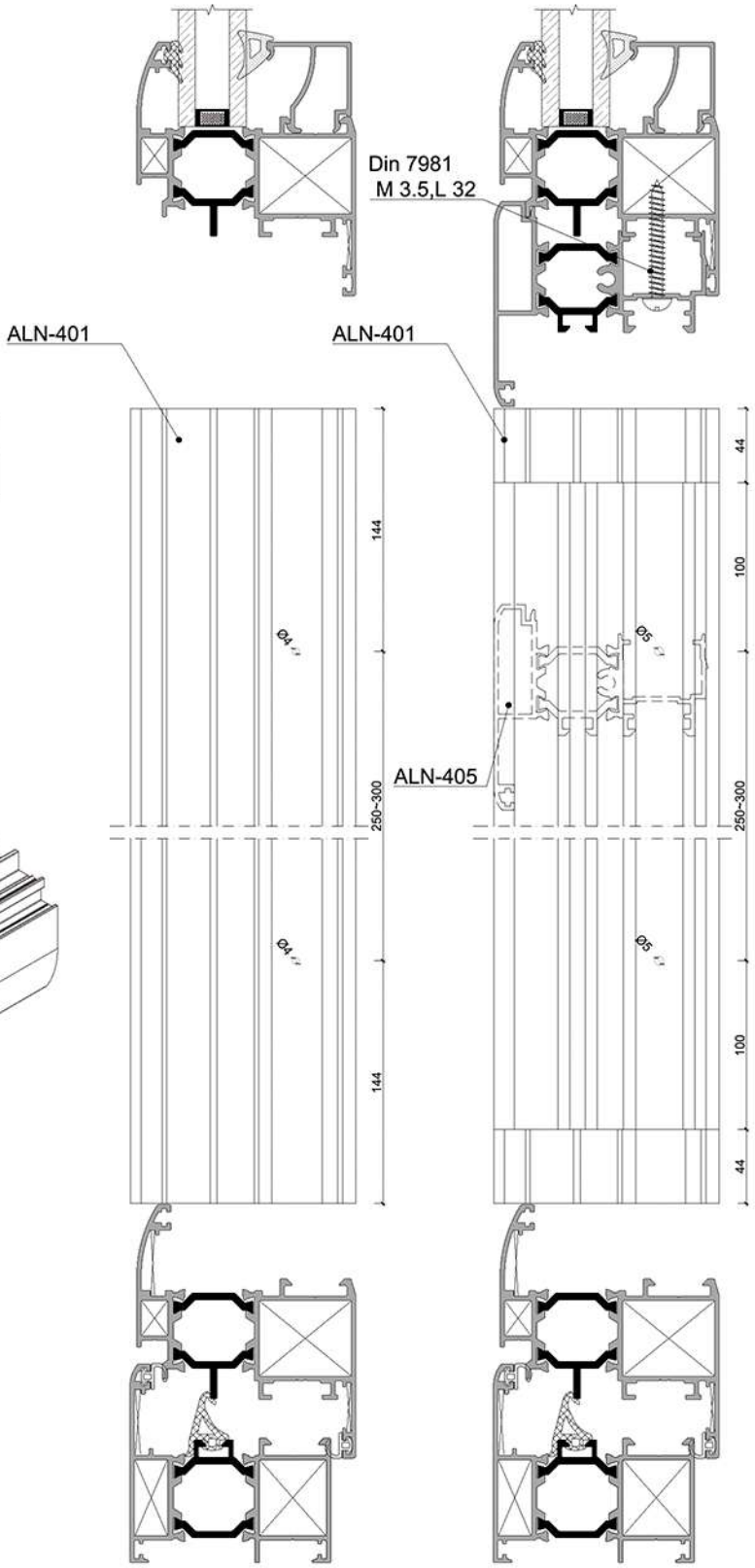
Hinged System 60 Series

Assembly Drawing



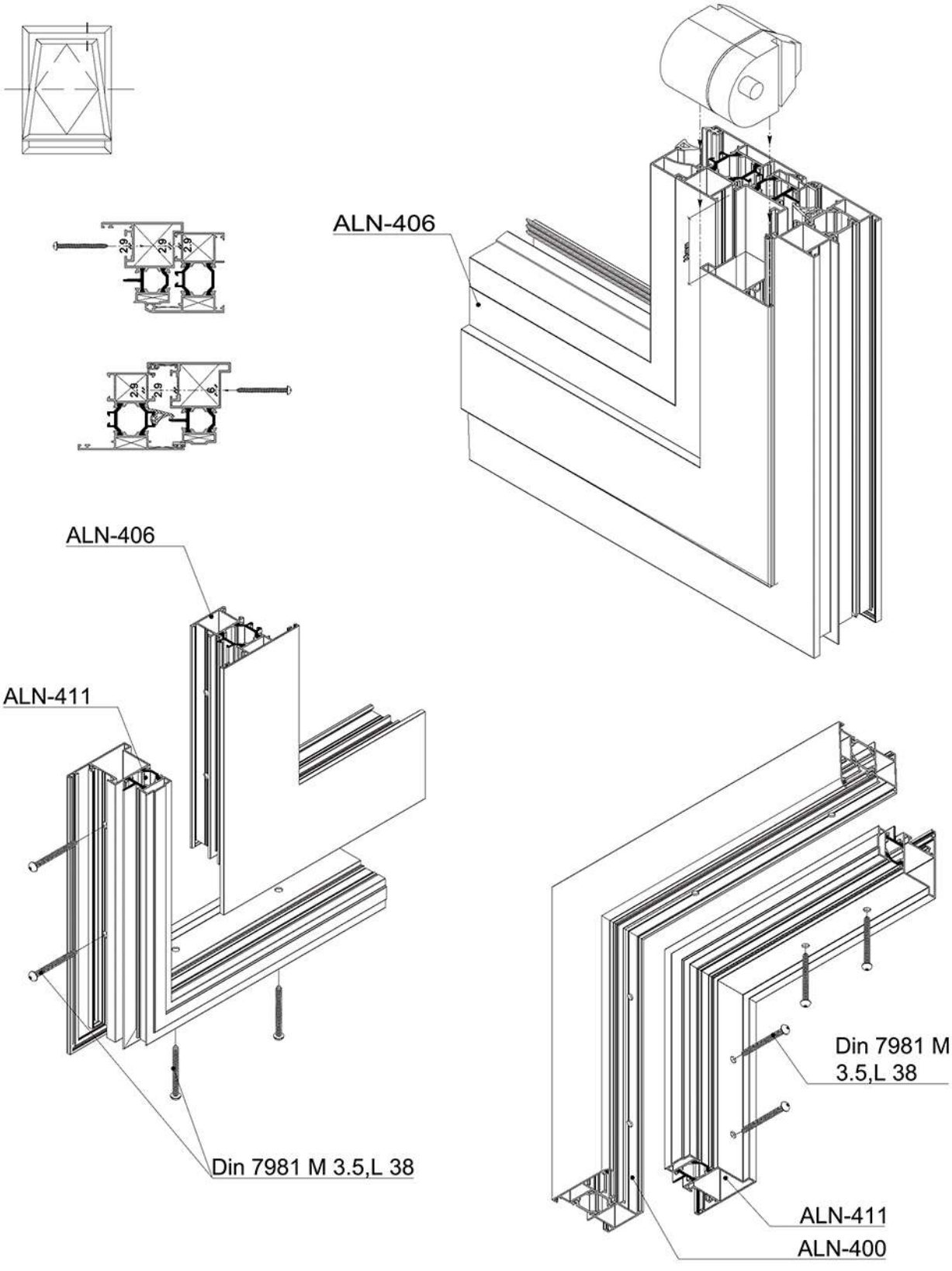






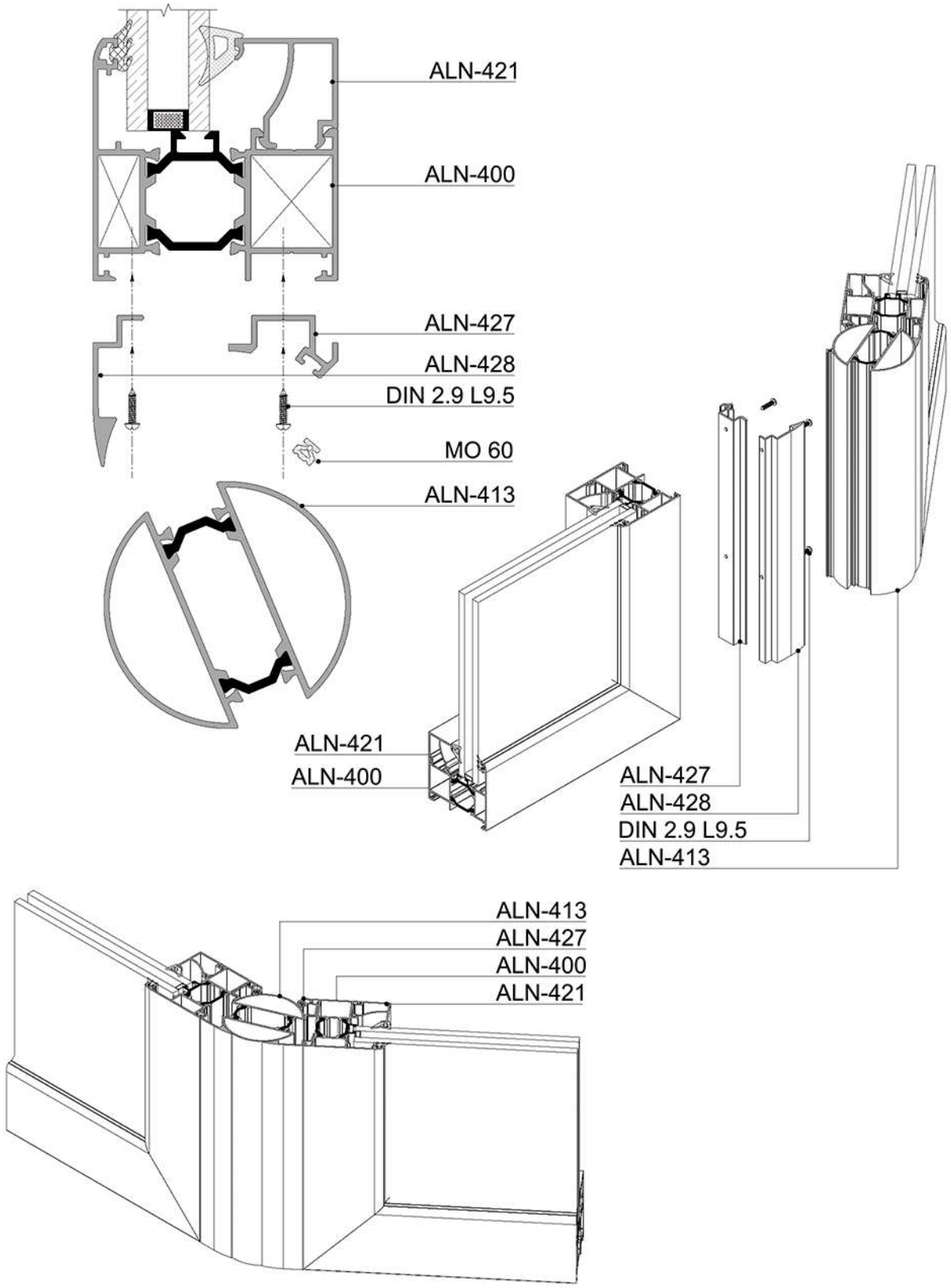
Hinged System 60 Series

Assembly Drawing



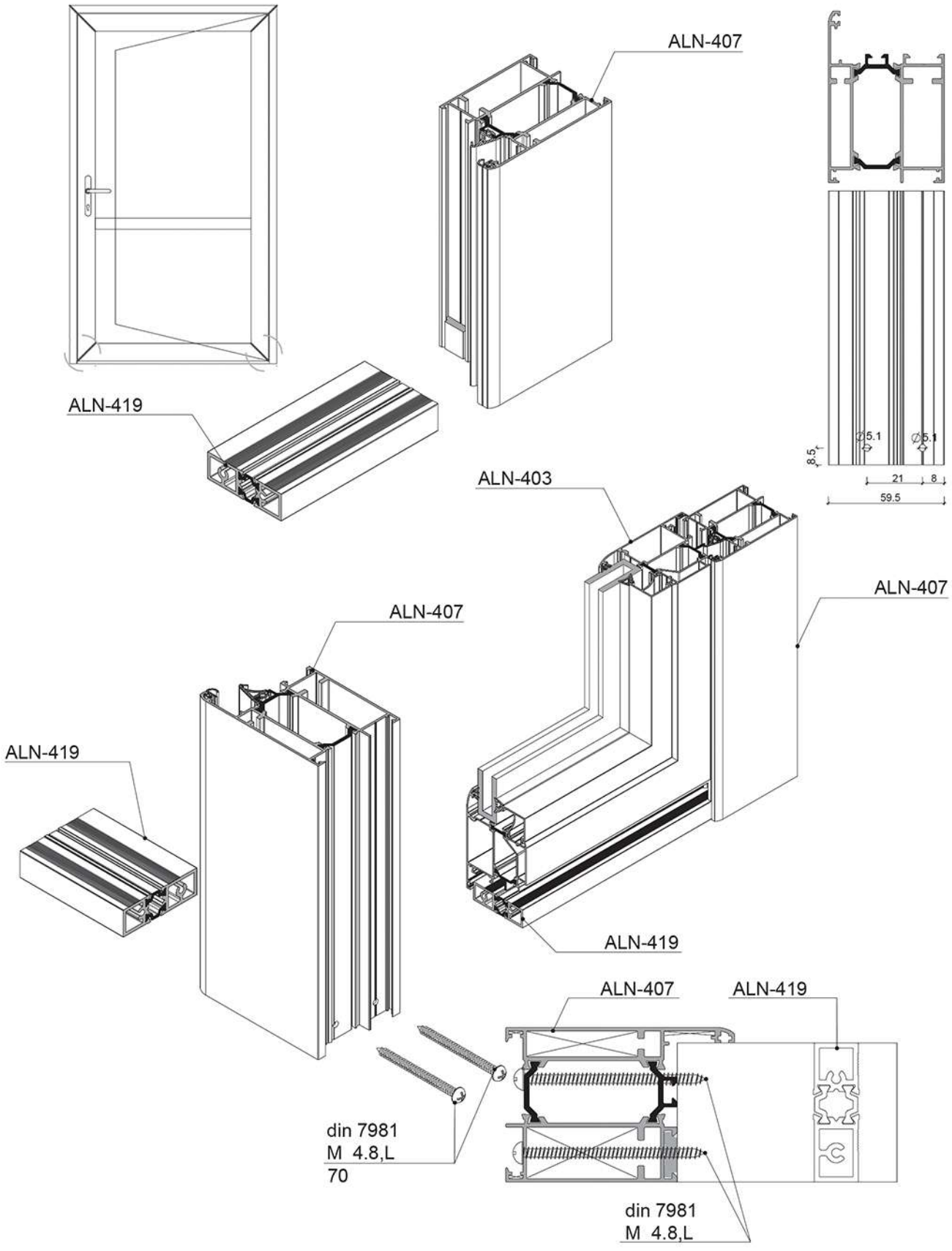
Hinged System 60 Series

Assembly Drawing



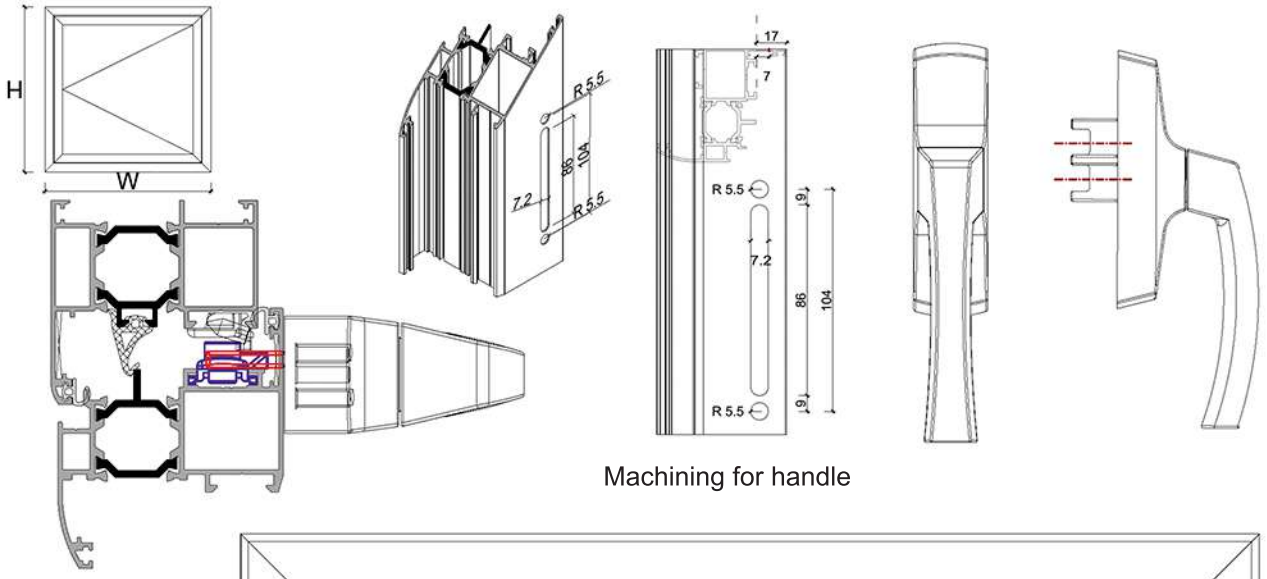
Hinged System 60 Series

Assembly Drawing



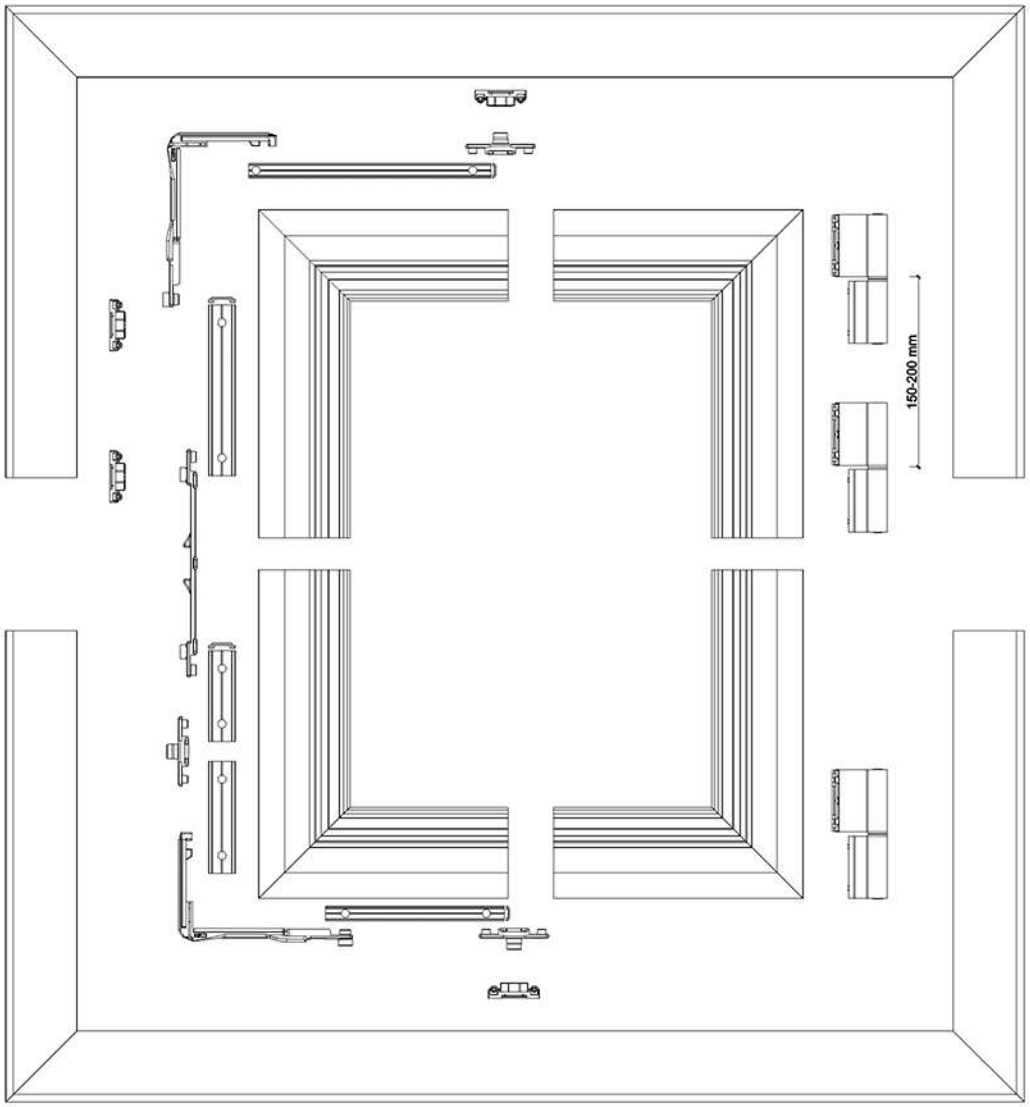
Hinged System 60 Series

Hardware Installation



Machining for handle

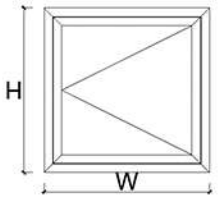
1200 ≤ H
1200 ≤ W

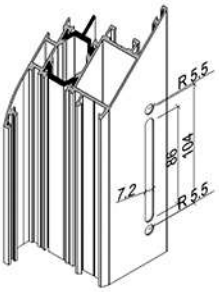


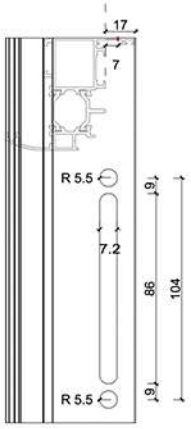
Installation of turn hardware

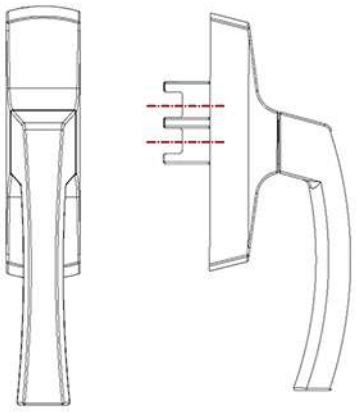
Hinged System 60 Series

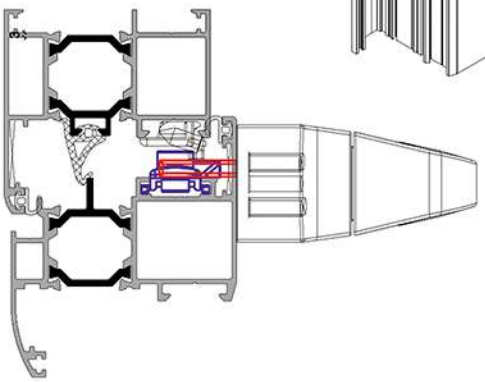
Hardware Installation







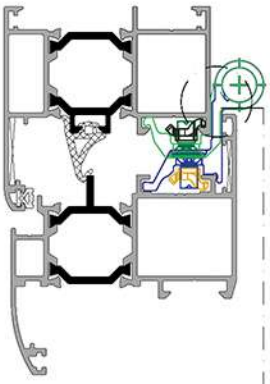


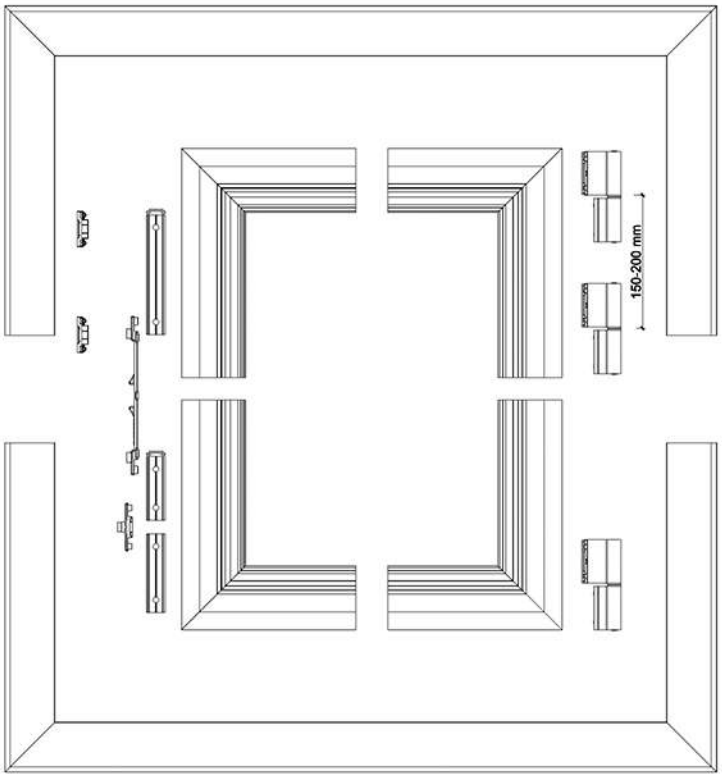


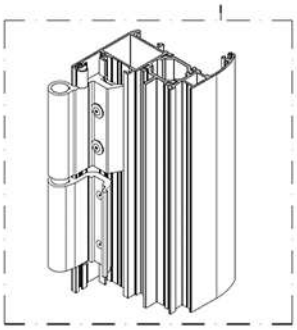
Machining for handle

1200 ≥ H

1200 ≥ W



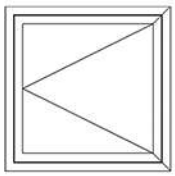


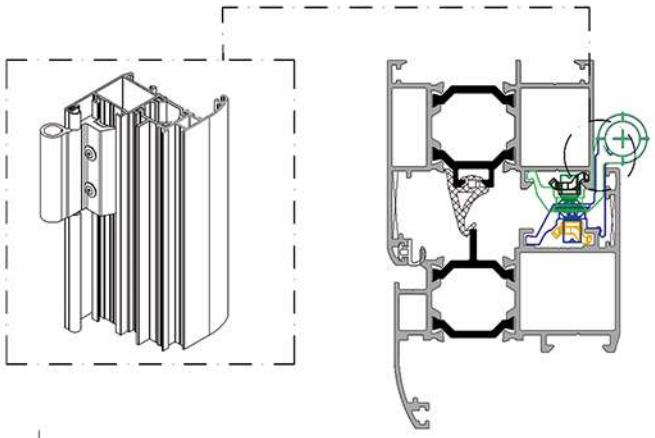


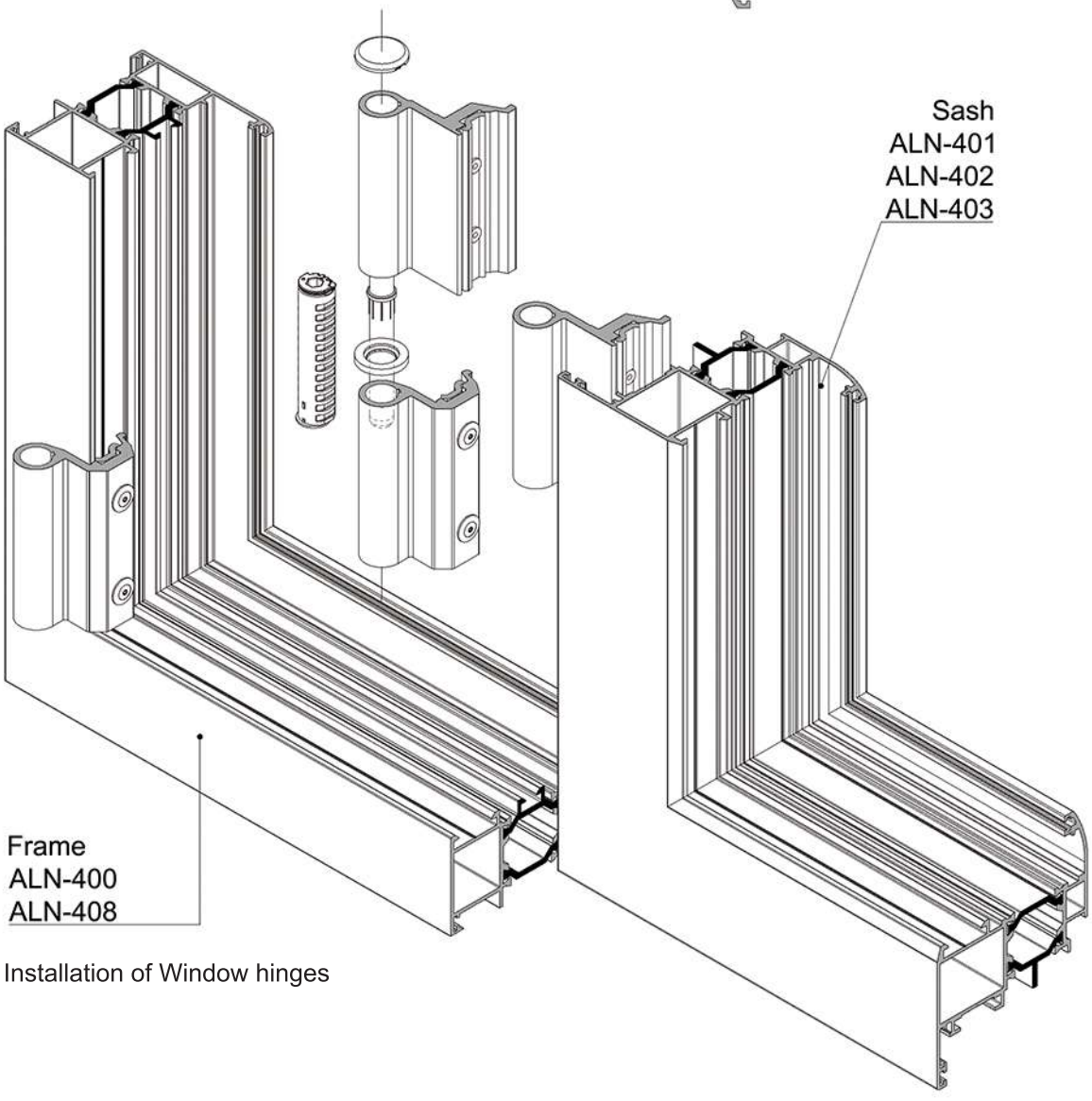
Installation of turn hardware

Hinged System 60 Series

Hardware Installation







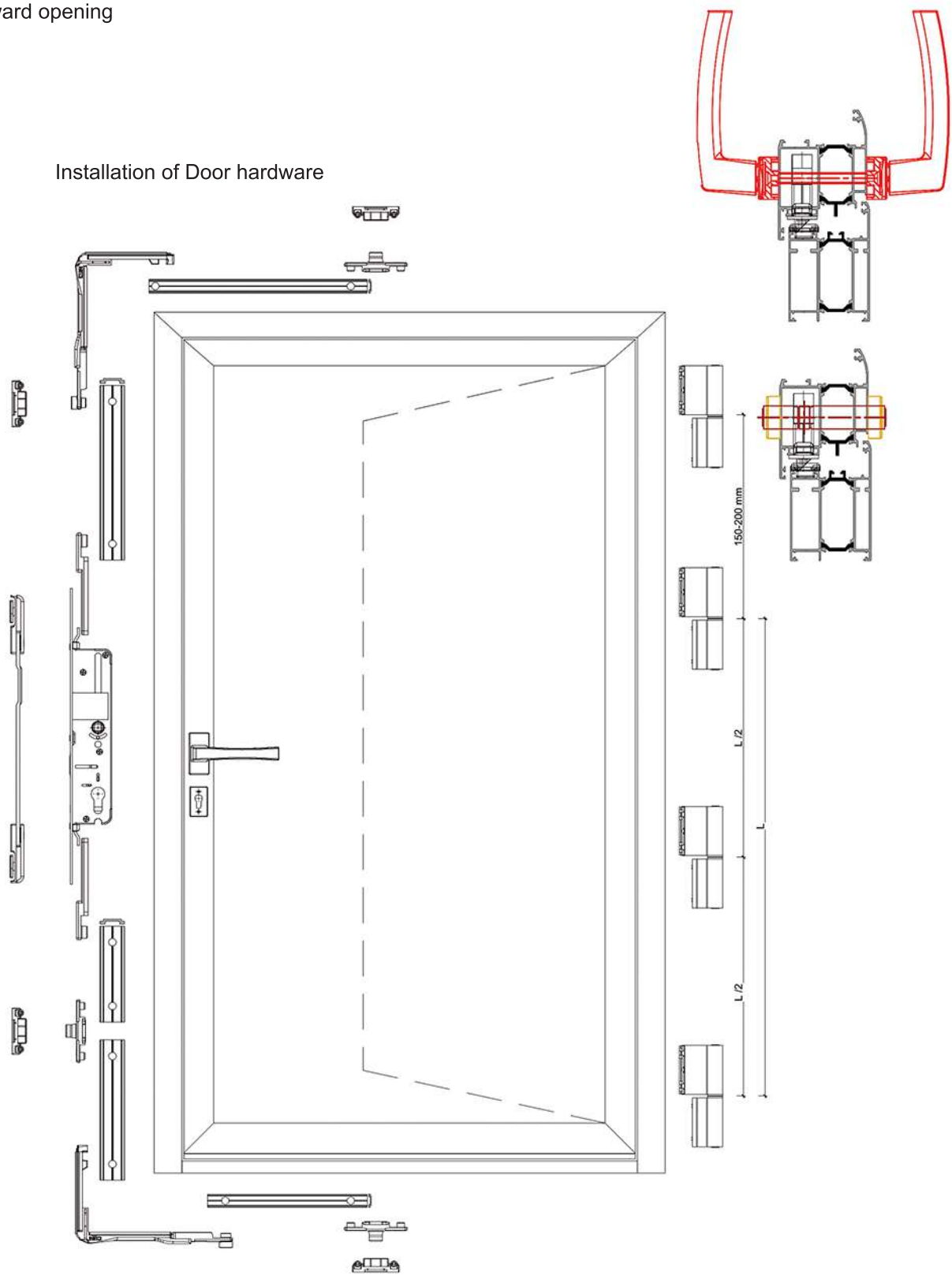
Installation of Window hinges

Hinged System 60 Series

Hardware Installation

Inward opening

Installation of Door hardware

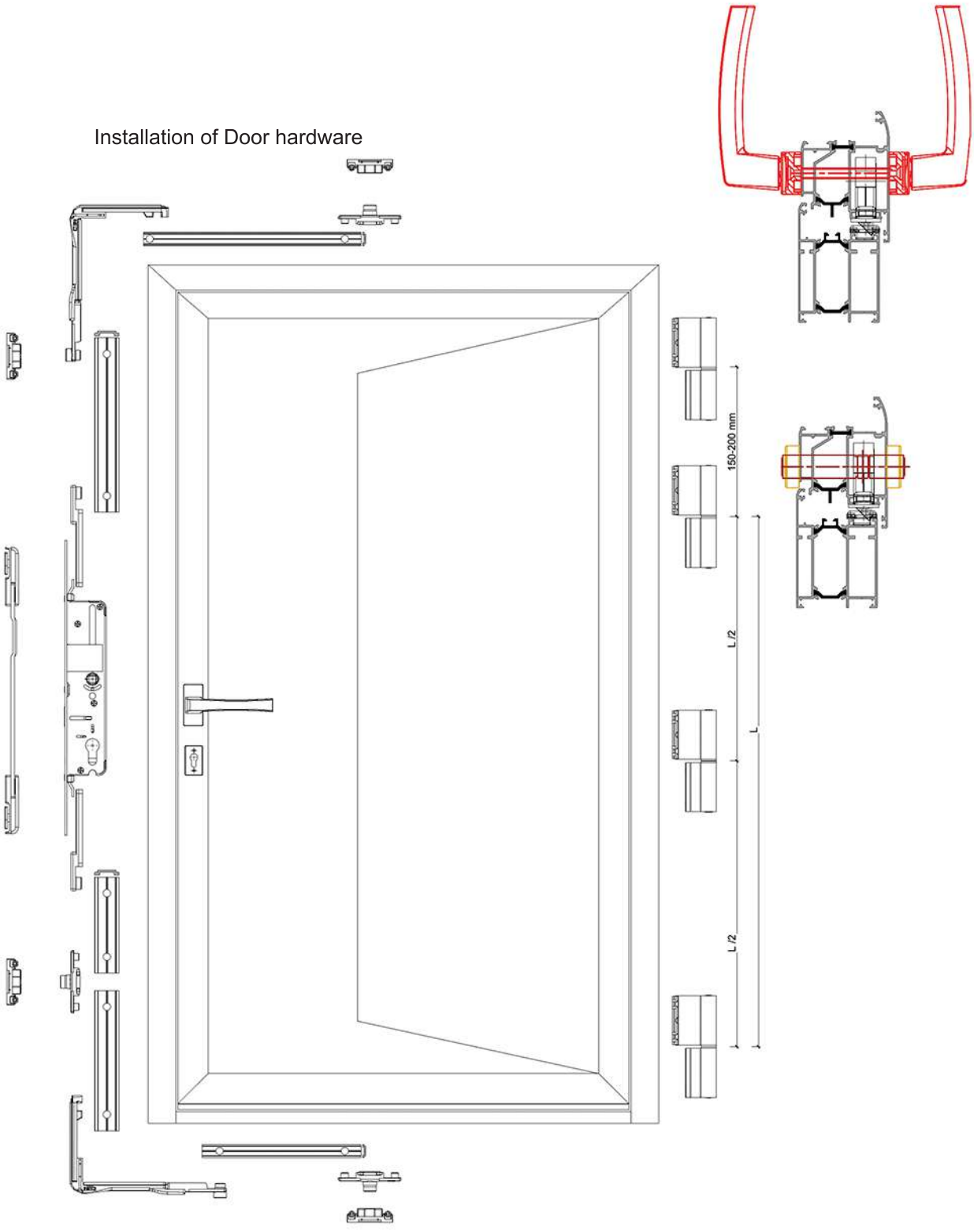


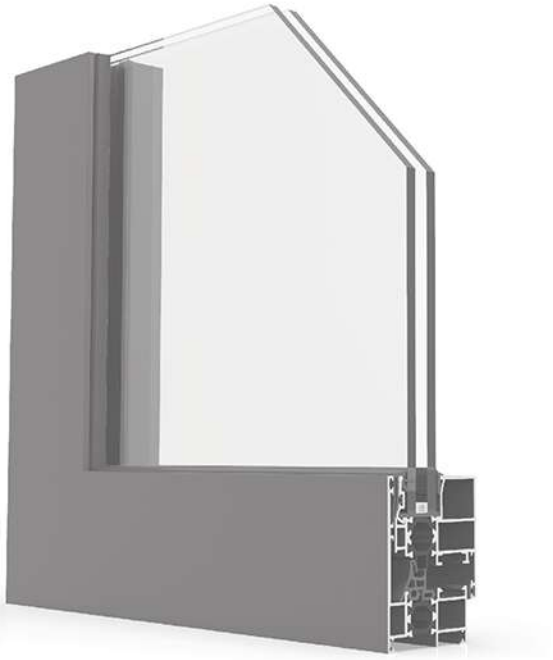
Hinged System 60 Series

Hardware Installation

Outward Opening

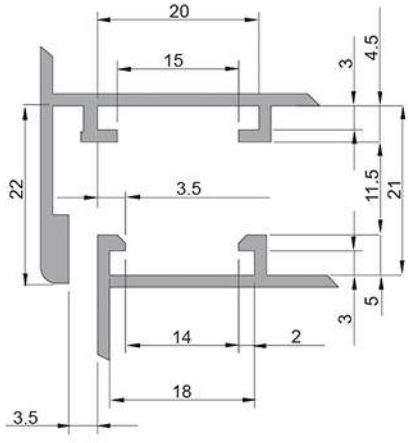
Installation of Door hardware



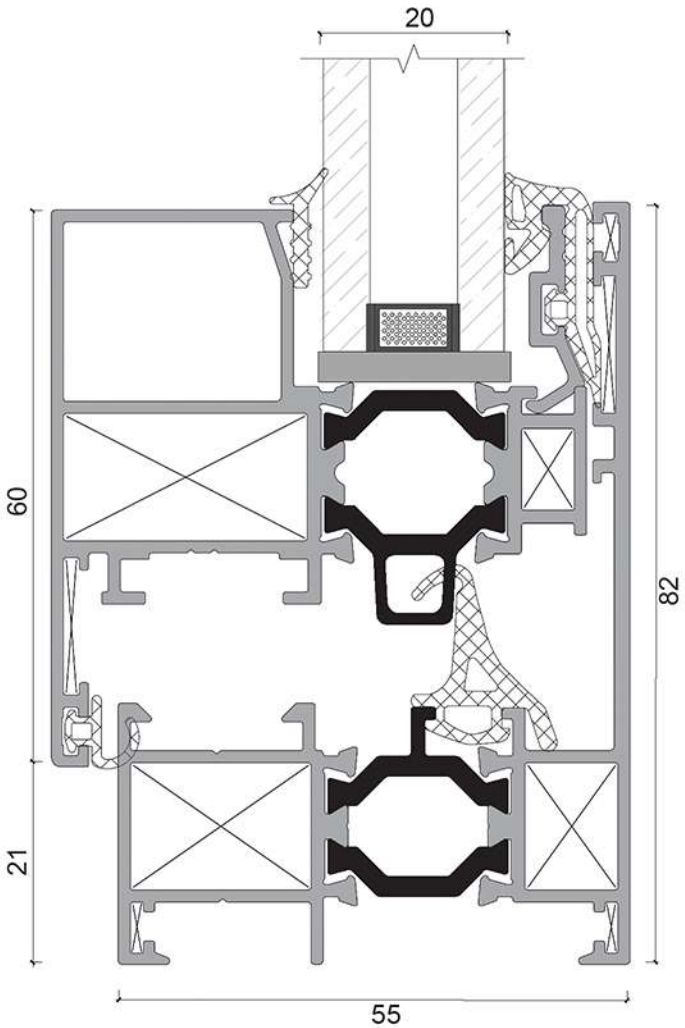


Hidden vent System 55 Series

. Profile width:	55 mm
. Vent width:	58 mm
. Wall thickness:	1.3 - 1.4 mm
. Rubber description:	EPDM DIN 7863
. Glass thickness:	16 - 26 m
. Aluminum alloy extrusion:	EN AW 6063 T5
. Isulation bar :	Polyamide Width 20 mm
. Safety drainage system	
. Various typologies	

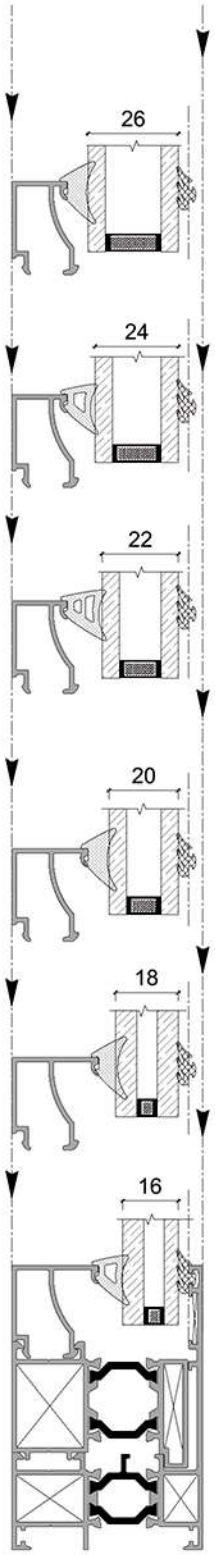


Euro Groove Section



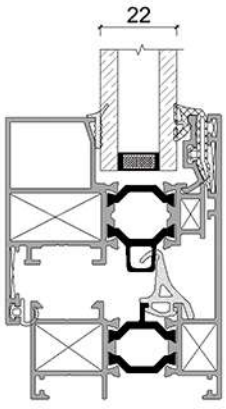
Hidden vent System 55 Series

Glazing Table



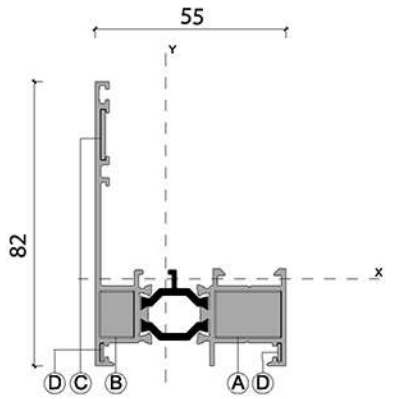
Glazing Thickness	Gasket Inside	Gasket Outside	Glazing Bead
16 mm	5.5 EP-019	MO68	ALN-421
18 mm	4.5 EP-016	MO68	ALN-421
20 mm	4.5 EP-016	MO68	ALN-323
22 mm	7.5 EP-021	MO68	ALN-423
24 mm	5.5 EP-019	MO68	ALN-423
26 mm	4.5 EP-016	MO68	ALN-423

Glazing Thickness	Gasket Inside	Gasket Outside	Glazing Bead
22 mm	1.9 EP-015	51927	ALN-438

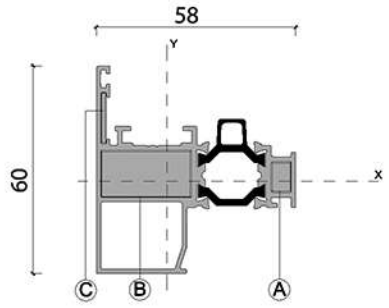


Hidden vent System 55 Series

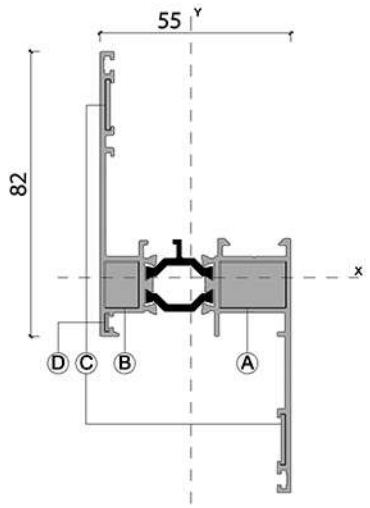
Profile & Accessories Information



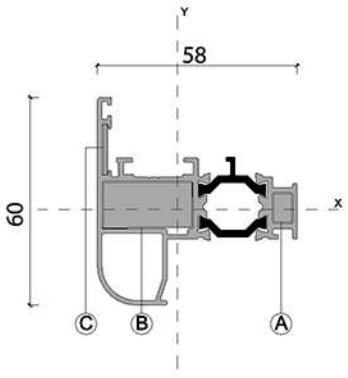
I_X: 17.72 cm^4	I_Y: 15.70 cm^4		
Frame : ALN-431	A: PCP-13 / 18 mm B: PCP-13 / 9 mm	Weight: 1199 gr/m	C: MM77 (AKW-810) D: MO 19



I_X: 7.50 cm^4	I_Y: 13.94 cm^4		
Sash : ALN-433	A: PCP-8 / 5 mm B: PCP-13 / 26 mm	Weight: 1209 gr/m	C: MM77 (AKW-810) –



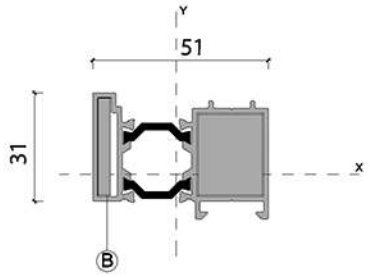
I_X: 36.15 cm^4	I_Y: 23.50 cm^4		
Frame : ALN-432	A: PCP-13 / 18 mm B: PCP-13 / 9 mm	Weight : 1425 gr/m	C: MM77 (AKW-810) D: MO 19

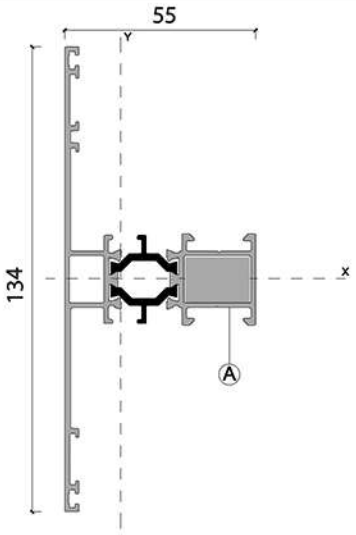


I_X: 6.50 cm^4	I_Y: 13.63 cm^4		
Sash : ALN-434	A: PCP-8 / 5 mm B: PCP-13 / 25 mm	Weight : 1155 gr/m	C: MM77 (AKW-810) –

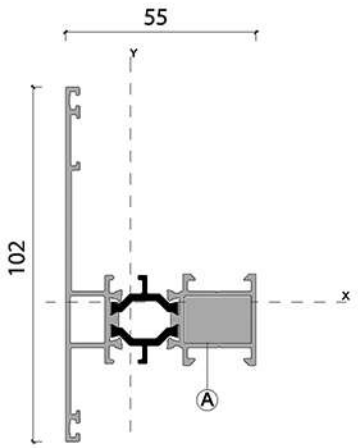
Hidden vent System 55 Series

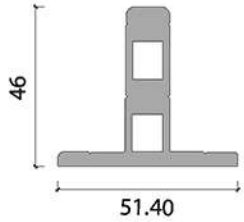
Profile & Accessories Information





I_X: 3.30 cm^4	I_Y: 9.27 cm	I_X: 41.83 cm^4	I_Y: 17.79 cm
Profile : ALN-435	A: PCP-24 / 18 mm	Transom : ALN-437	A: ALN-446
Weight: 943 gr/m	B: PCP-28 / 3 mm	Weight : 1467 gr/m	B: –

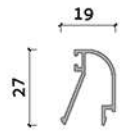
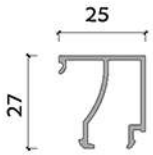
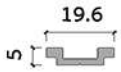
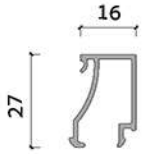
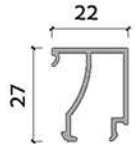




I_X: 22.03 cm^4	I_Y: 16.15 cm^4		
Transom : ALN-436	A: ALN-446		
Weight : 1297 gr/m	B: –	Transombar profile: ALN-446	Weight : 1414 gr/m

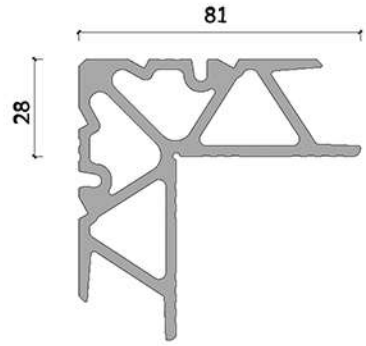
Hidden vent System 55 Series

Profile & Accessories Information

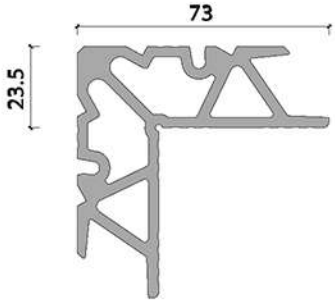
			
Glazing bead: ALN-439	Weight : 235 gr/m	Glazing bead: ALN-421	Weight : 313 gr/m
			
profile: ALN-331	Weight : 747 gr/m	Glazing bead: ALN-423	Weight : 281 gr/m
			
Glazing bead: ALN-323	Weight : 302 gr/m	Glazing bead: ALN-438	Weight : 122 gr/m

Hidden vent System 55 Series

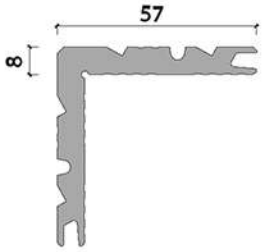
Profile & Accessories Information



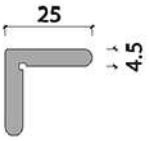
Corner Joint: PCP-28	Weight : 3429 gr/m



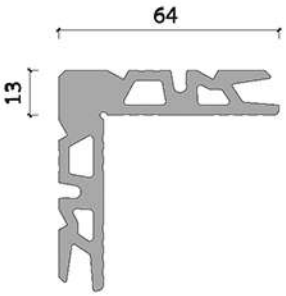
Corner Joint: PCP-24	Weight : 2918 gr/m



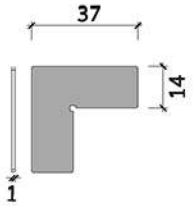
Corner Joint: PCP-8	Weight : 1947 gr/m



Corner Joint: MO 19 399012	Weight: 533 gr/m



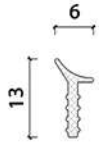
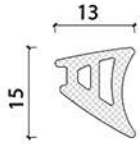
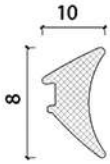
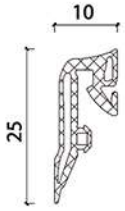
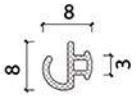
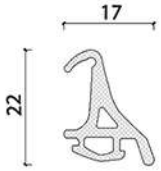
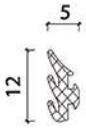
Corner Joint: PCP-13	Weight : 2673 gr/m



Corner joint: MM 77	Weight : –

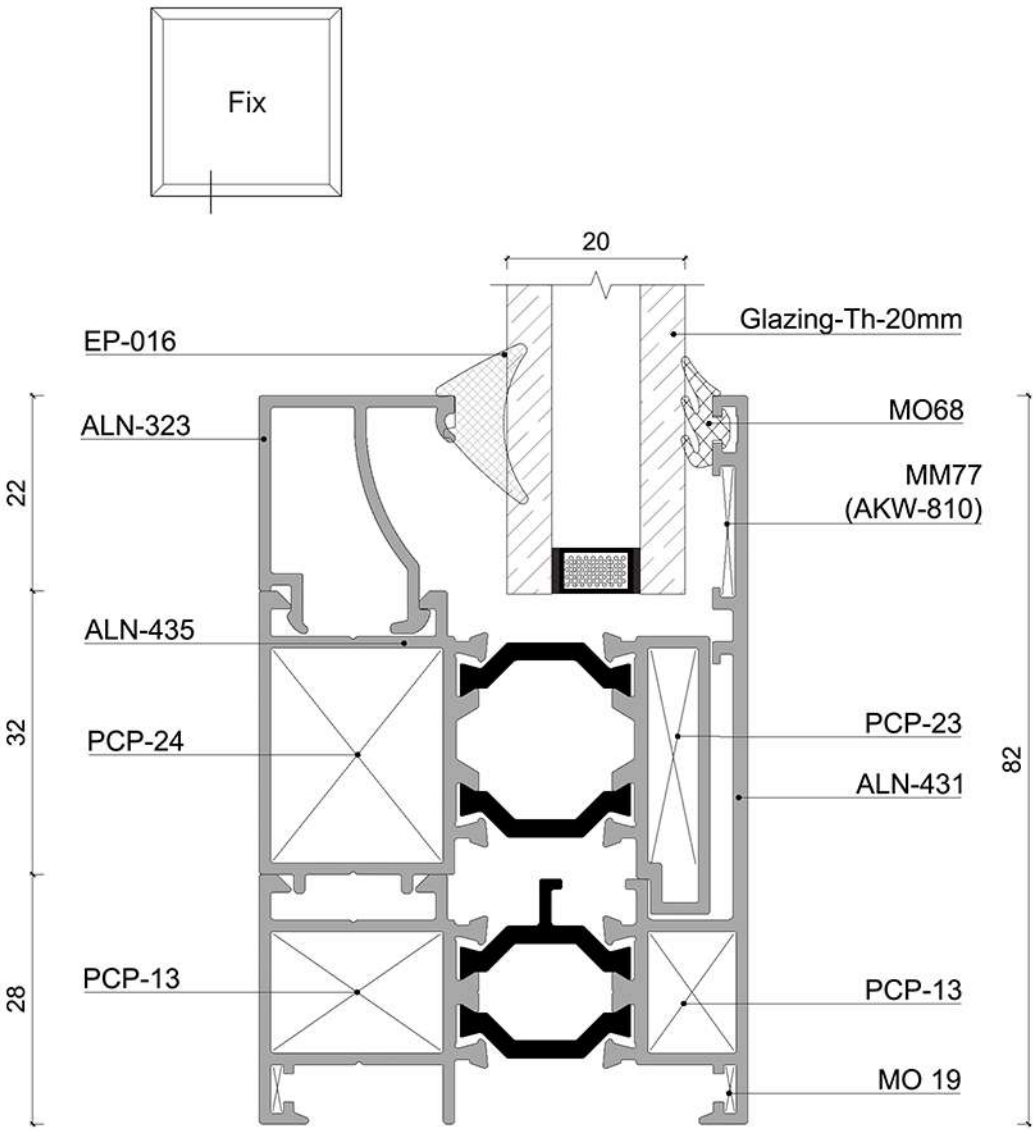
Hidden vent System 55 Series

Profile & Accessories Information

			
Gasket: EP-015	Weight : 21 gr/m	Gasket: EP-021	Weight : 80 gr/m
			
Gasket: EP-016	Weight : 77 gr/m	Gasket: TH55 lk	Weight : 112 gr/m
			
Gasket: EP-018	Weight : 77 gr/m	Gasket: TH55L	Weight : 152 gr/m
			
Gasket: MO68	Weight : 46 gr/m		

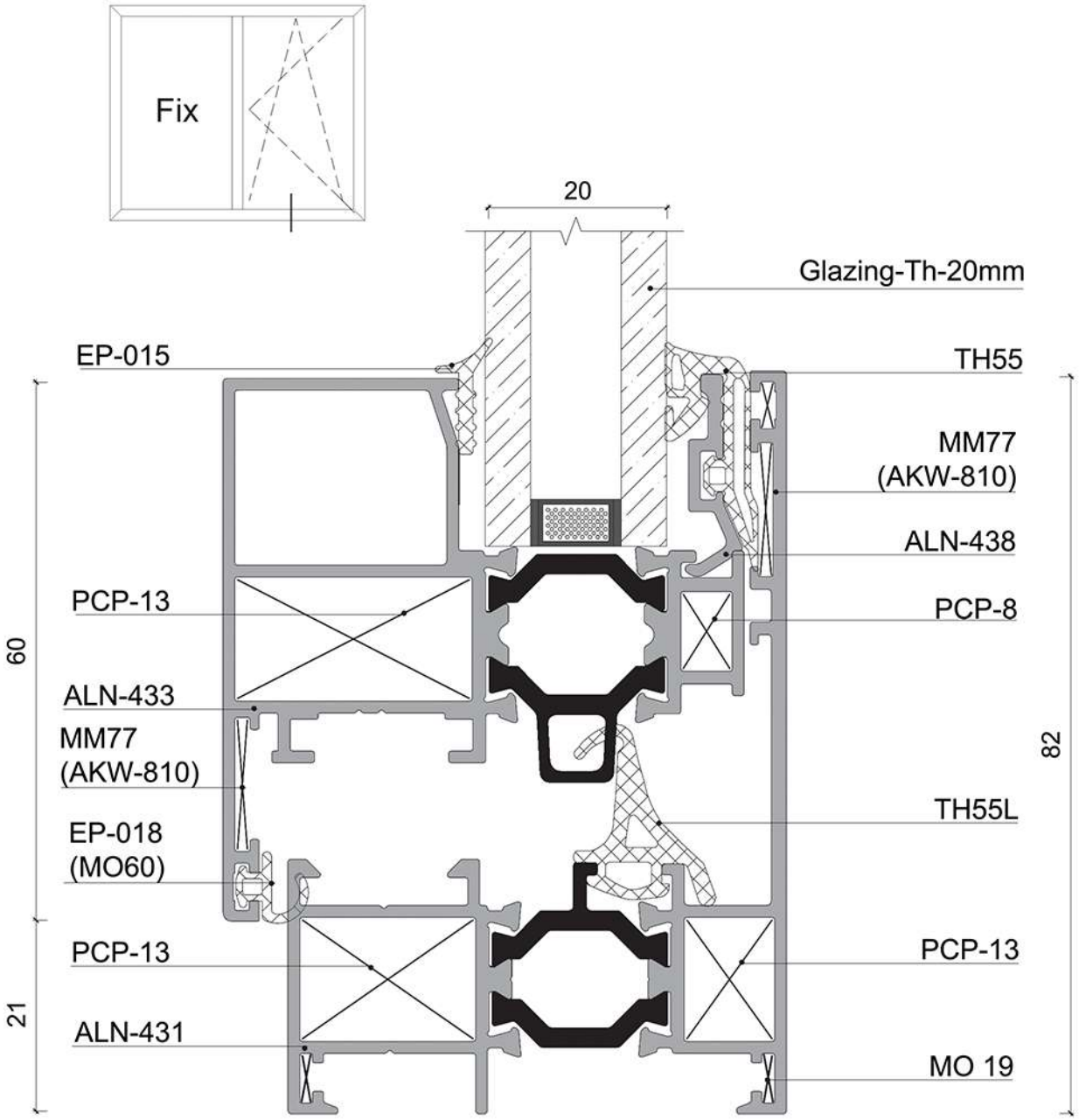
Hidden vent System 55 Series

Fabrication Detailes



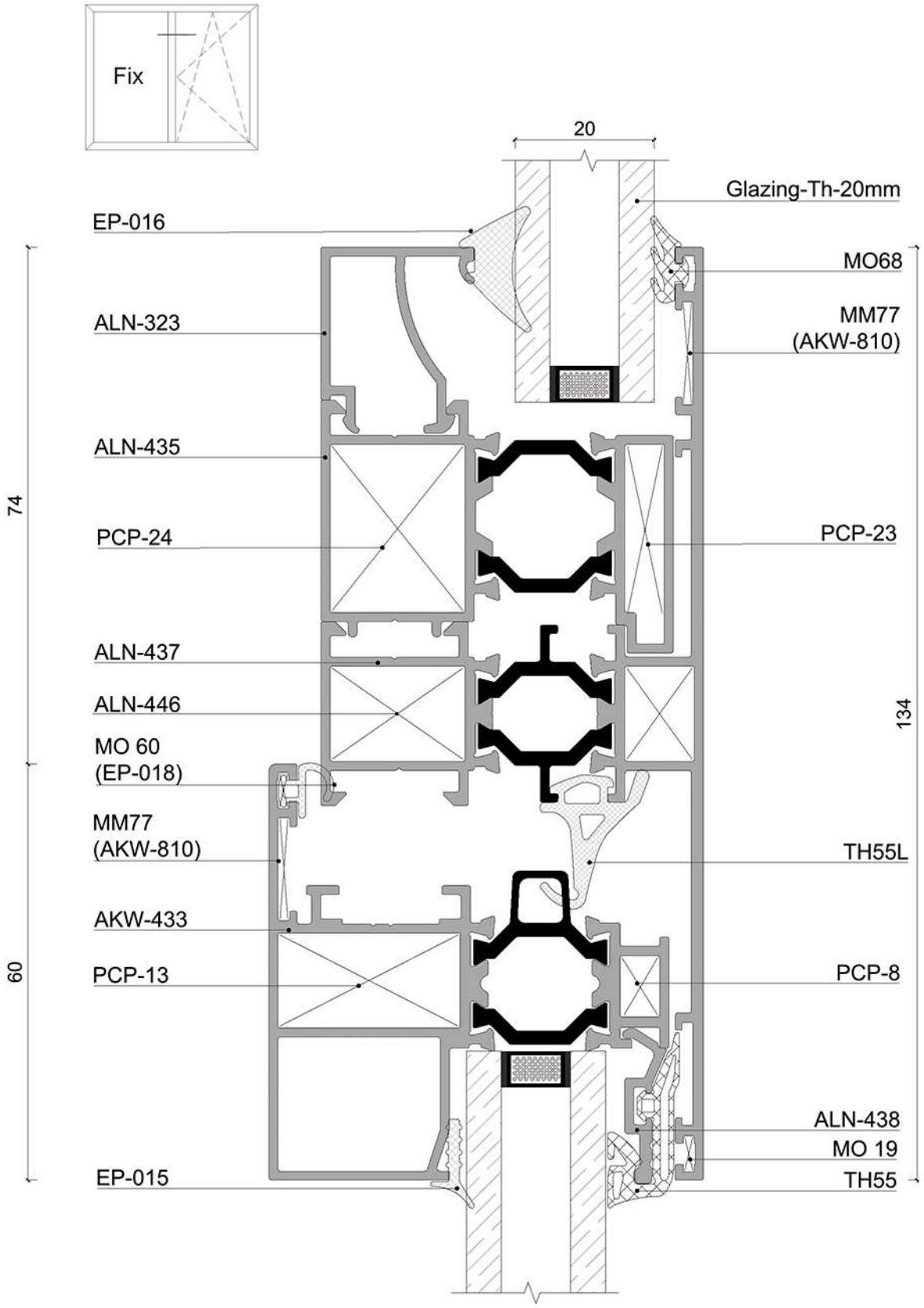
Hidden vent System 55 Series

Fabrication Detailes



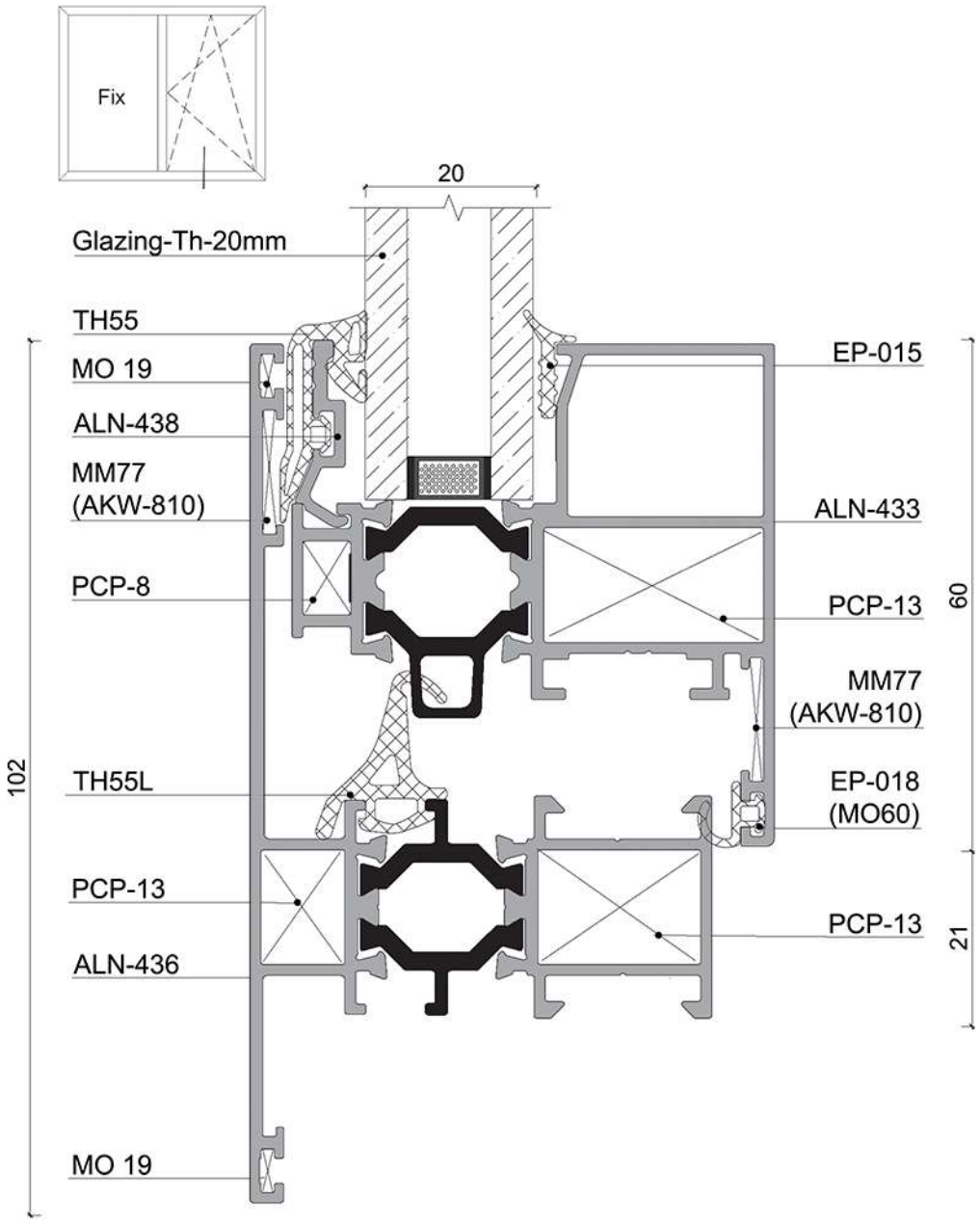
Hidden vent System 55 Series

Fabrication Detailes



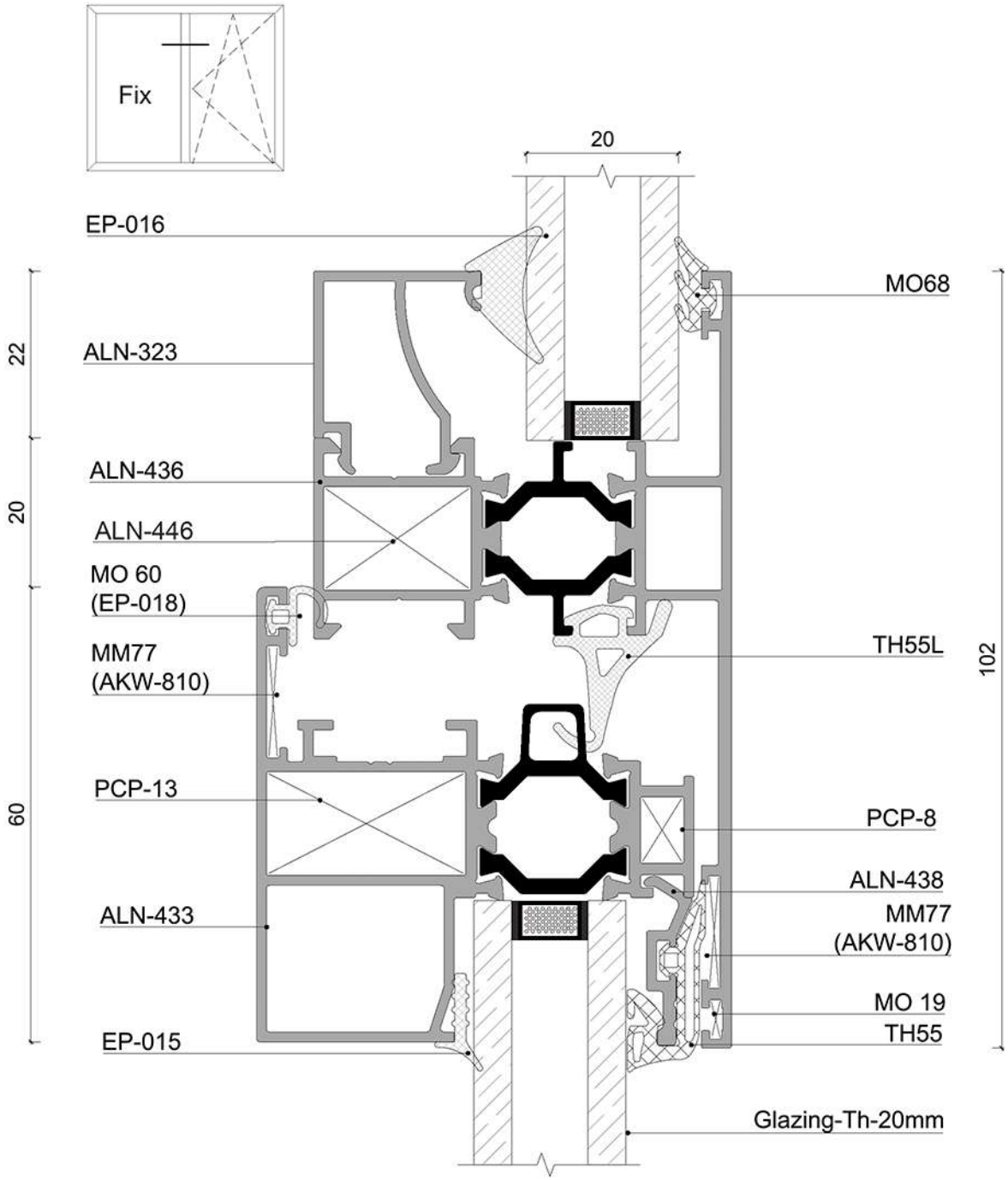
Hidden vent System 55 Series

Fabrication Detailes



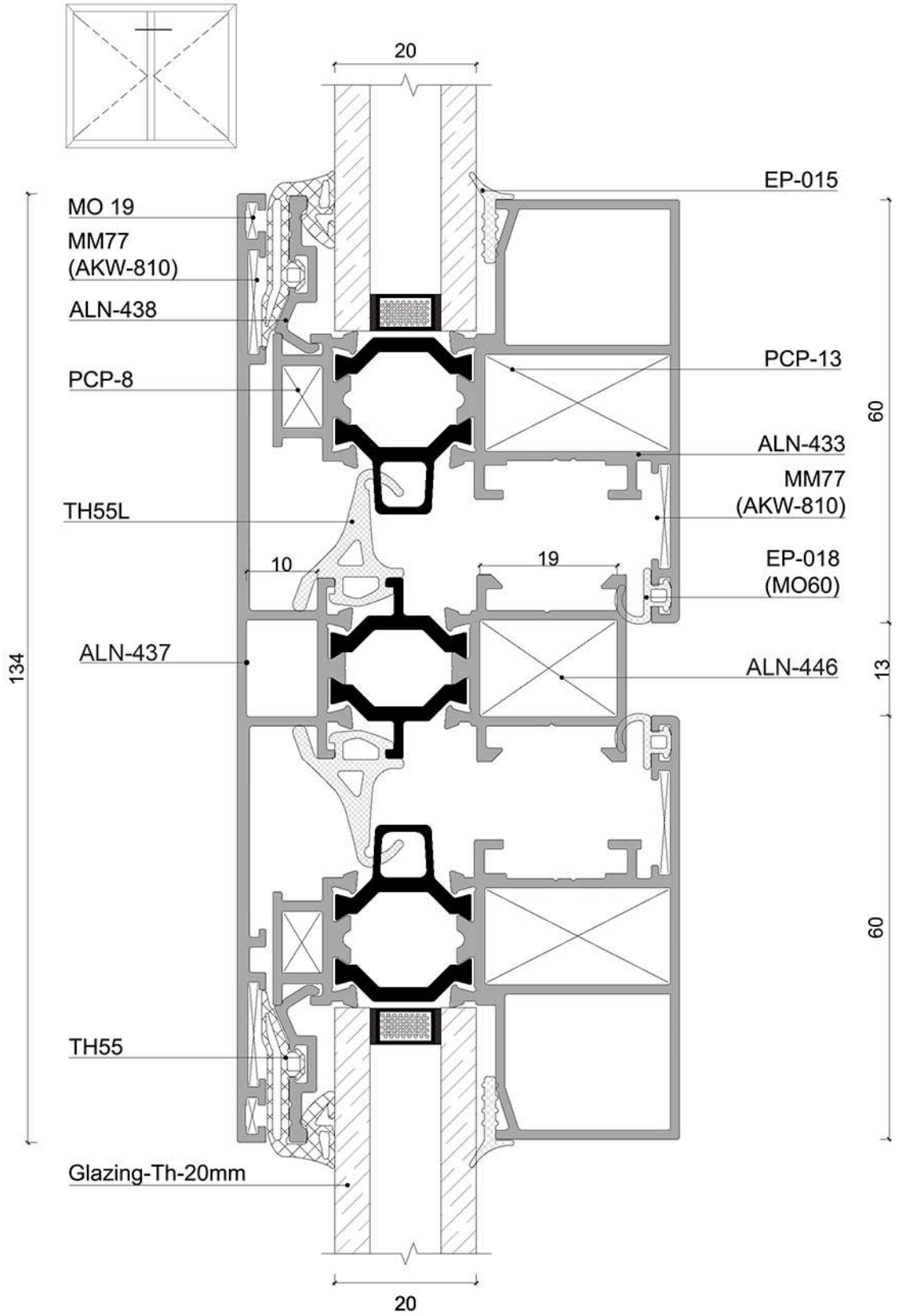
Hidden vent System 55 Series

Fabrication Detailes



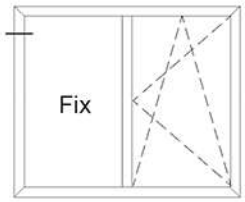
Hidden vent System 55 Series

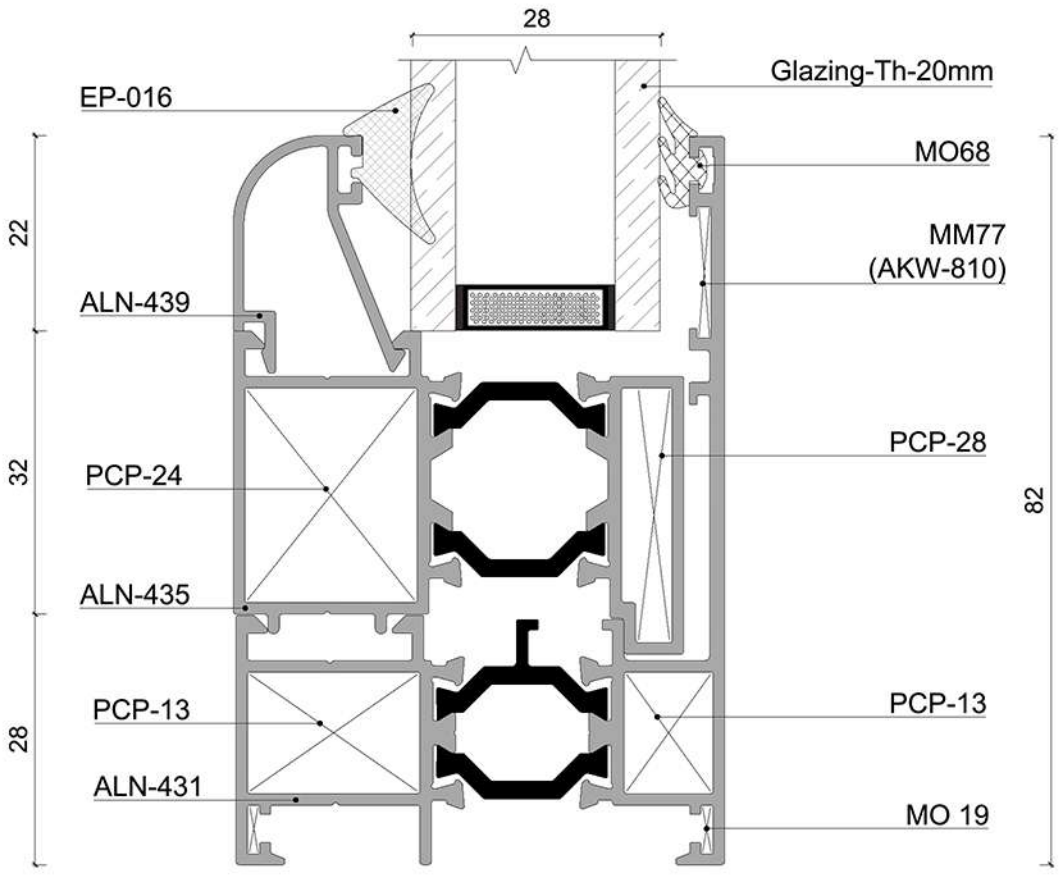
Fabrication Detailes



Hidden vent System 55 Series

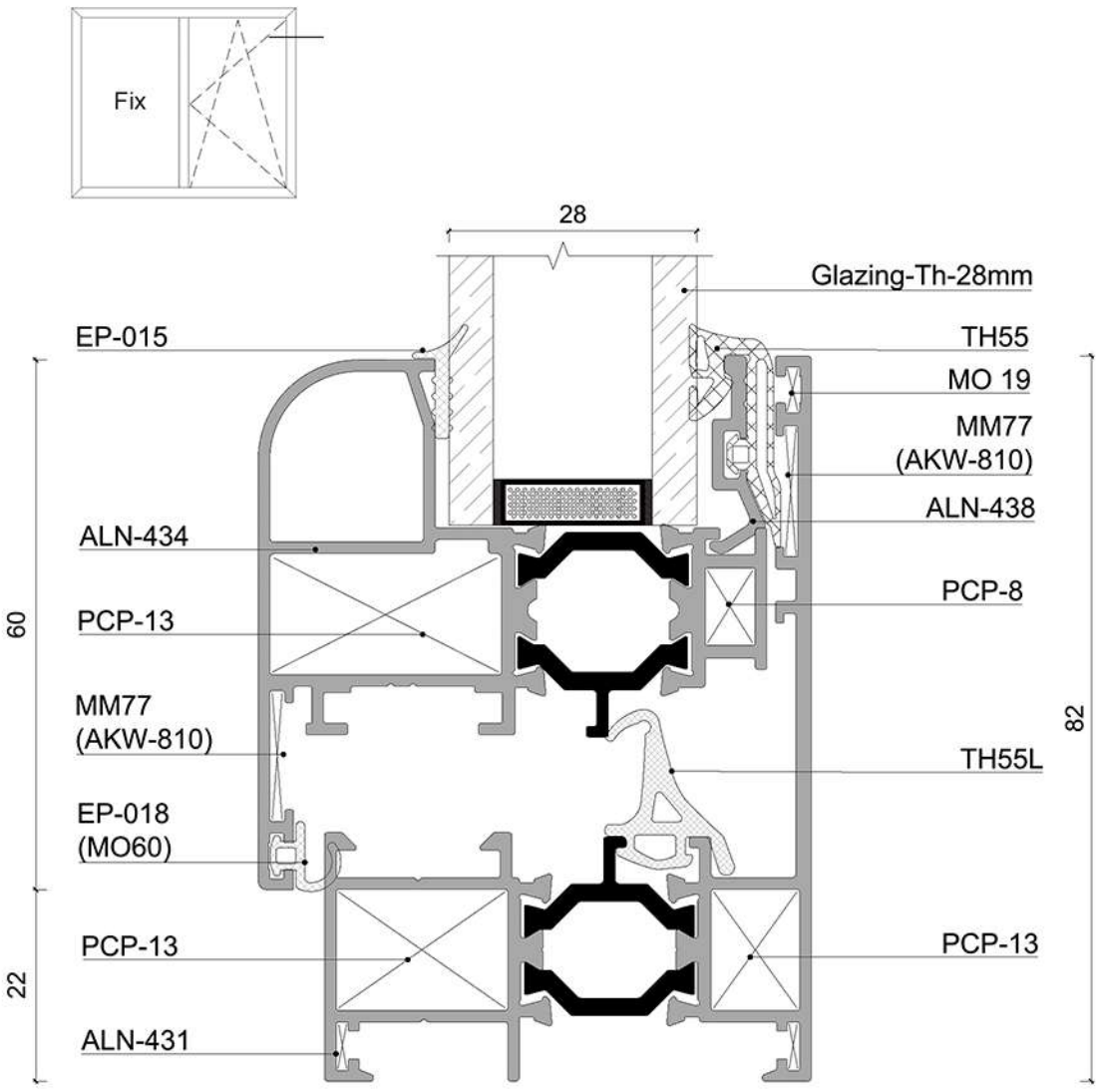
Fabrication Detailes





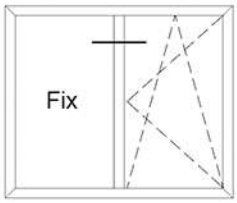
Hidden vent System 55 Series

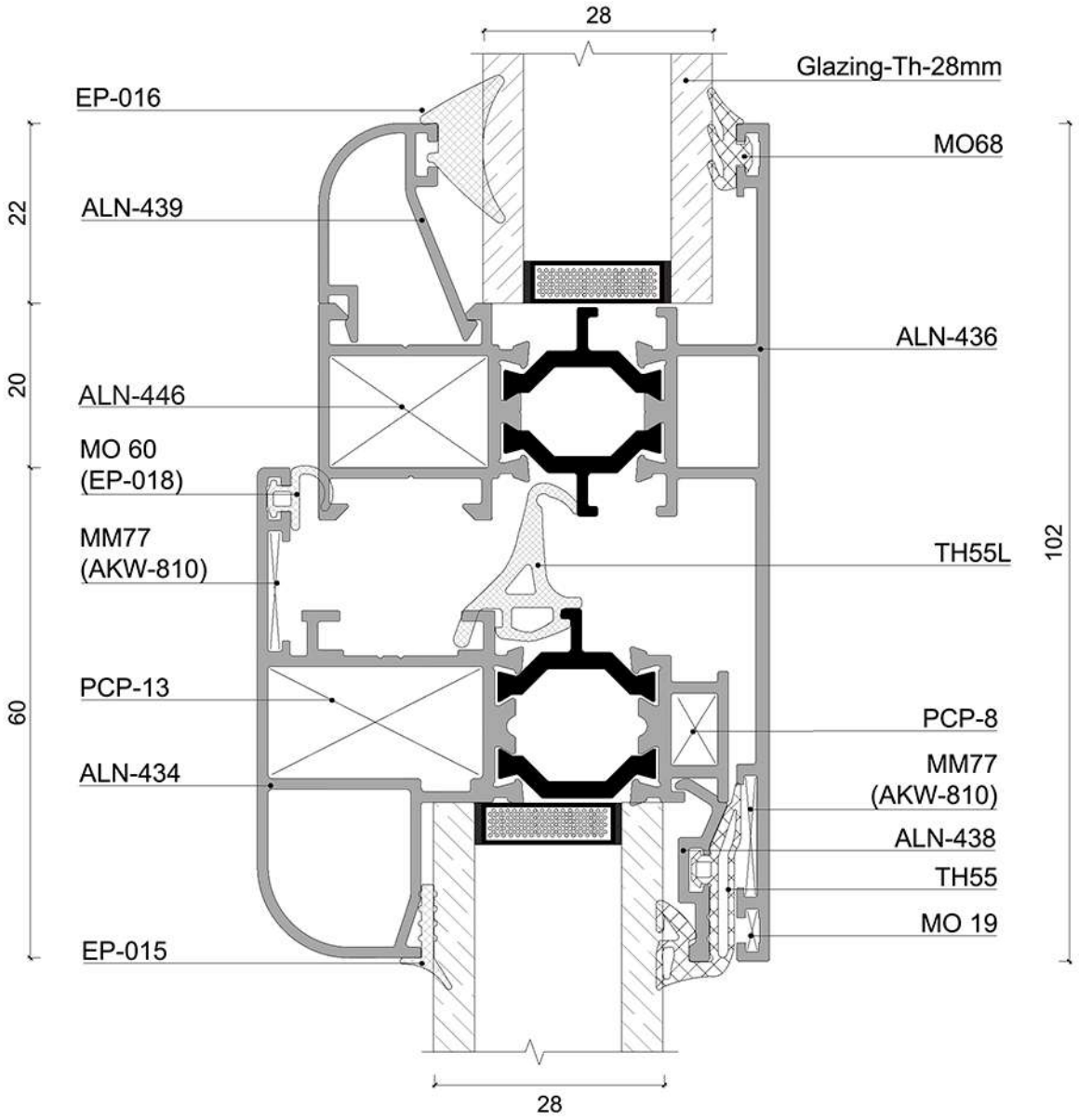
Fabrication Detailes



Hidden vent System 55 Series

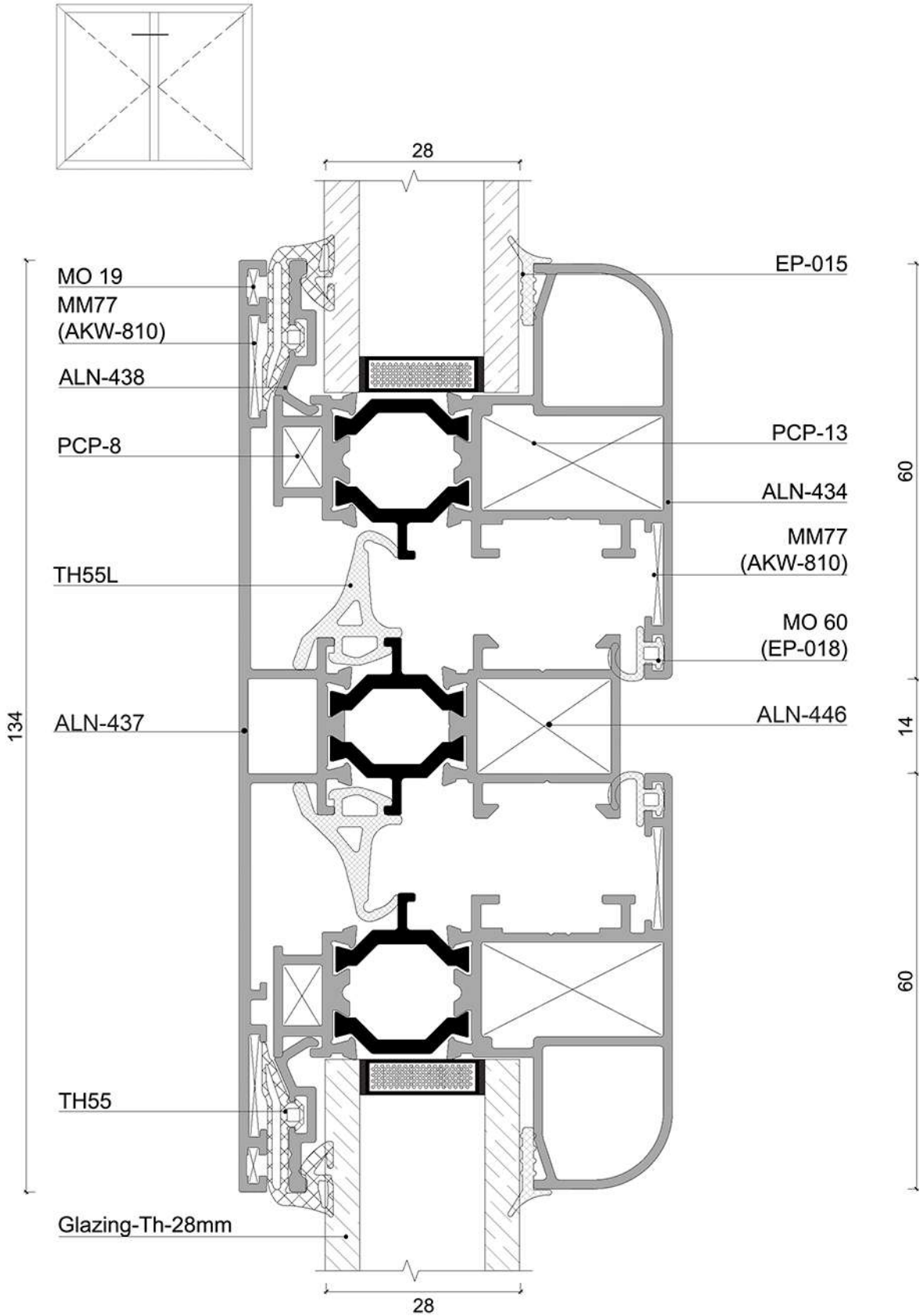
Fabrication Detailes





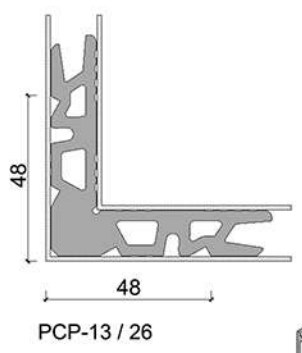
Hidden vent System 55 Series

Fabrication Detailes

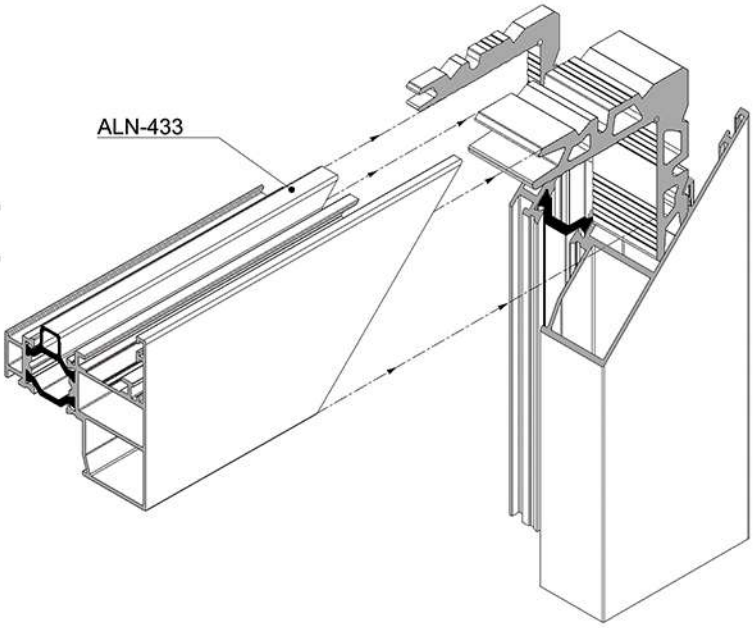


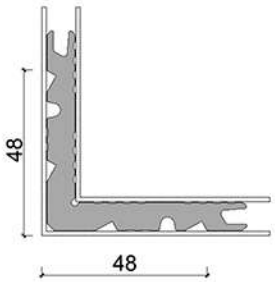
Hidden vent System 55 Series

Assembly Drawing



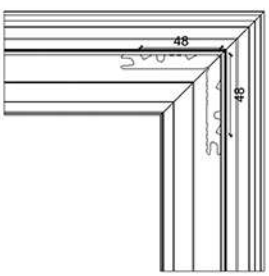
PCP-13 / 26

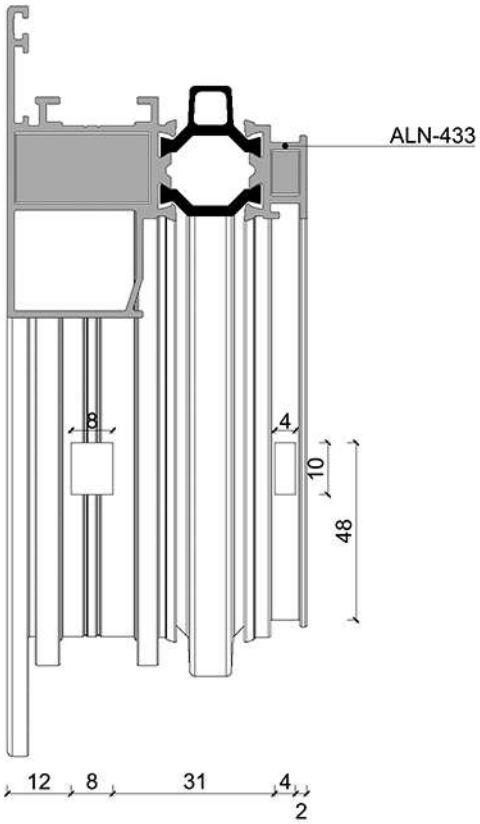




PCP-8 / 5

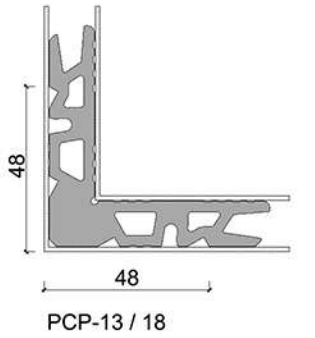




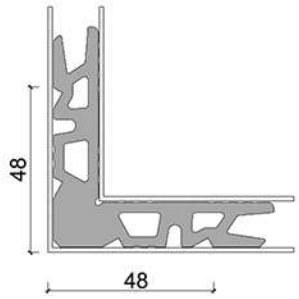


Hidden vent System 55 Series

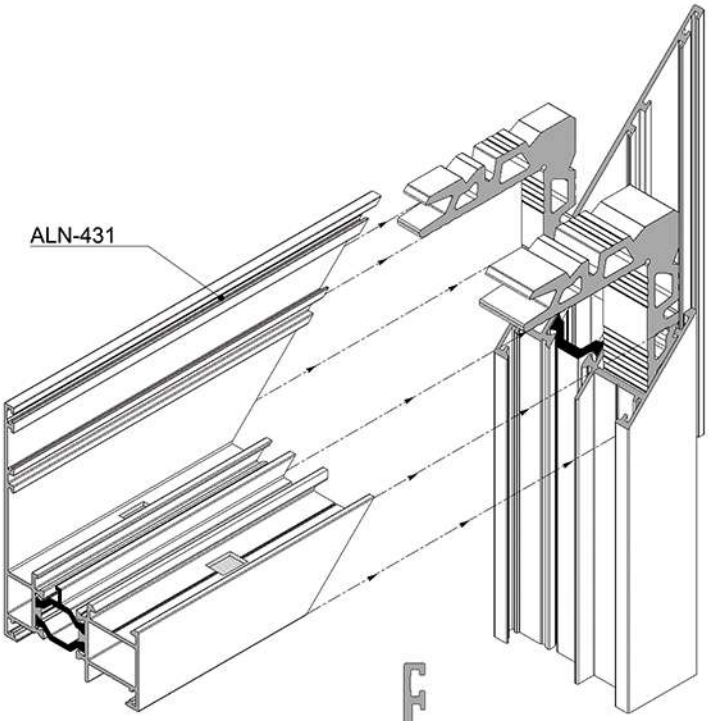
Assembly Drawing

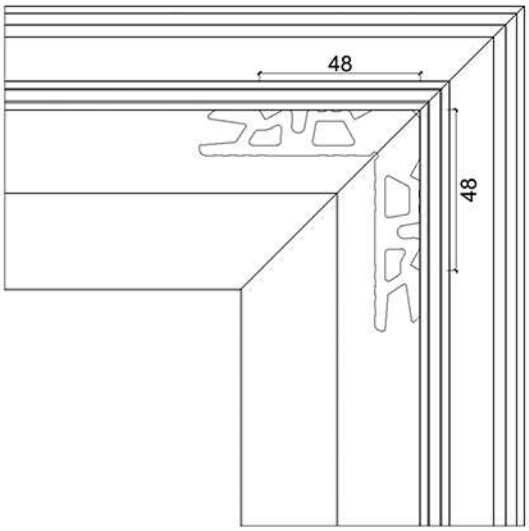


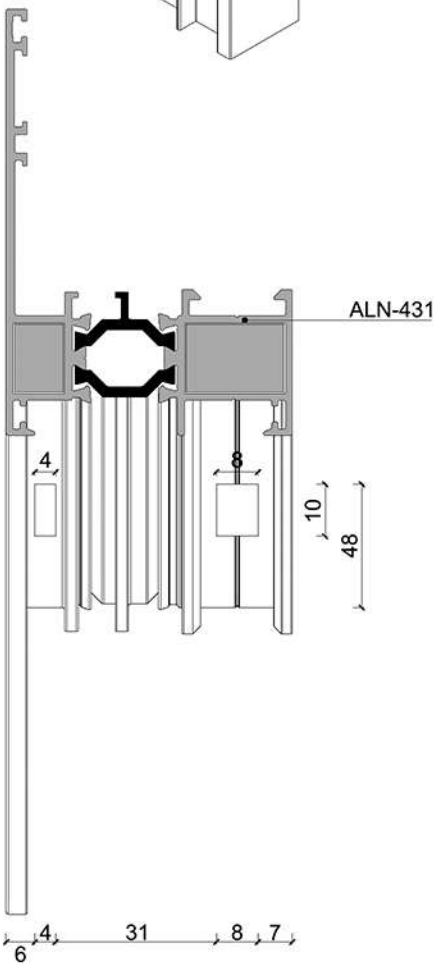
PCP-13 / 18



PCP-13 / 9

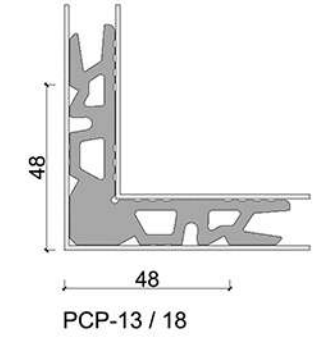




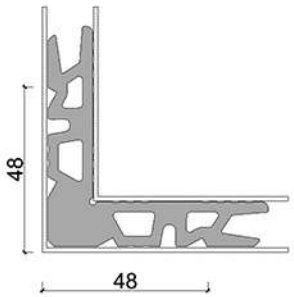


Hidden vent System 55 Series

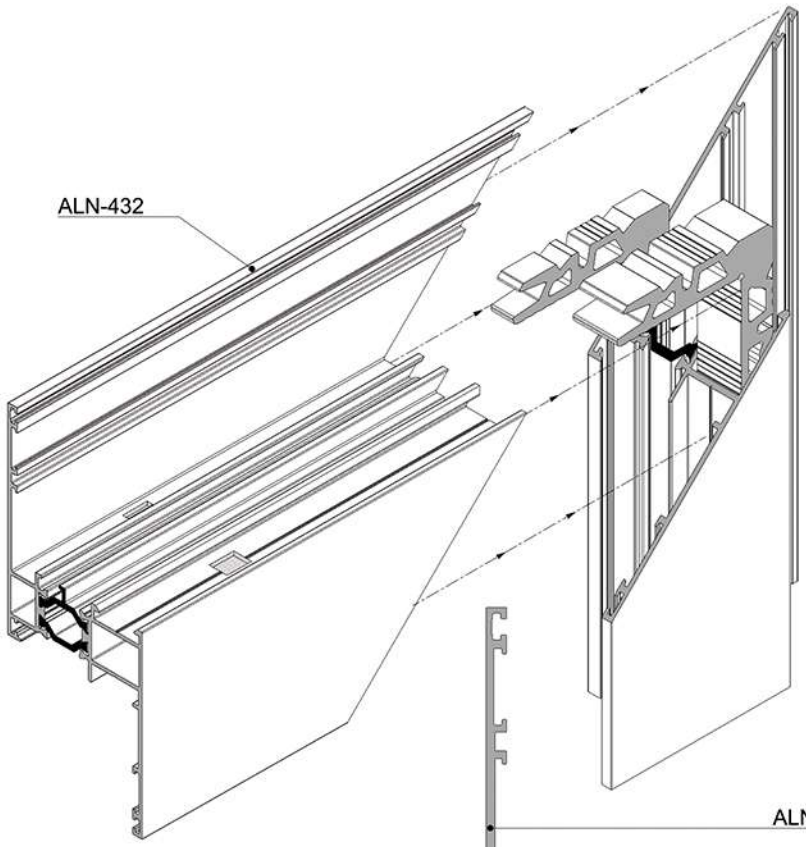
Assembly Drawing

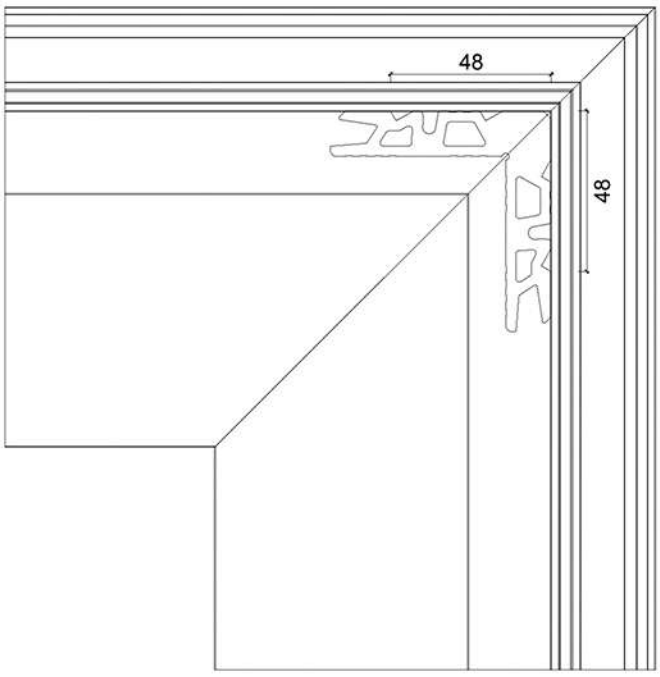


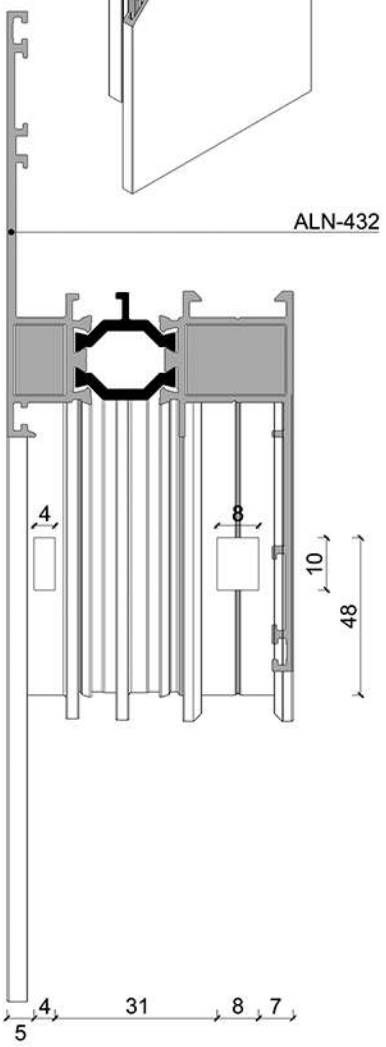
PCP-13 / 18



PCP-13 / 9

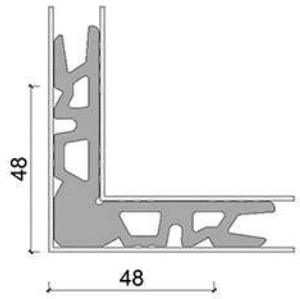




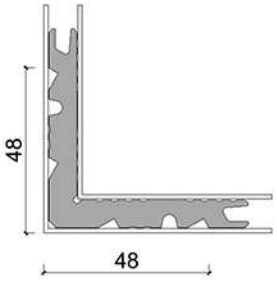


Hidden vent System 55 Series

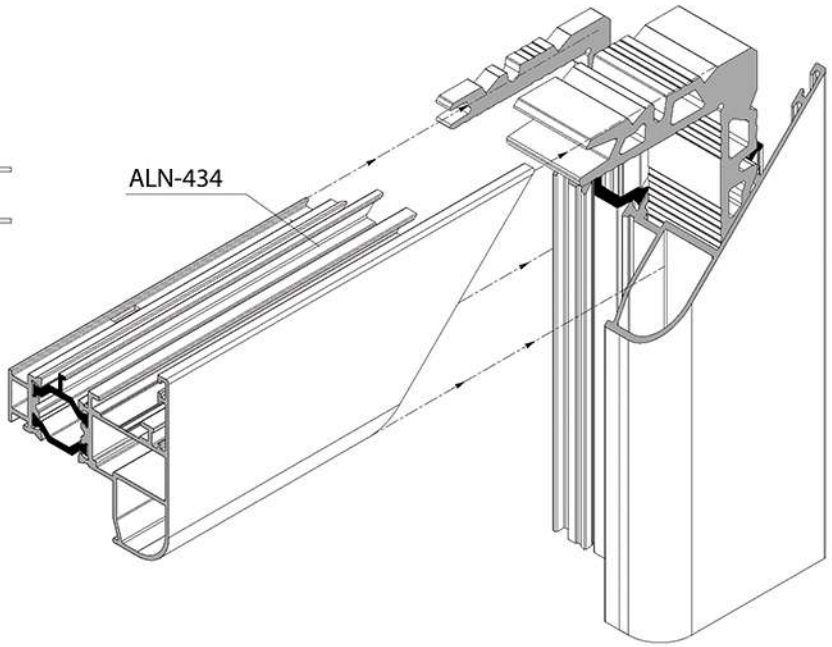
Assembly Drawing

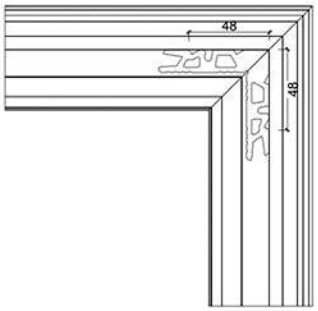


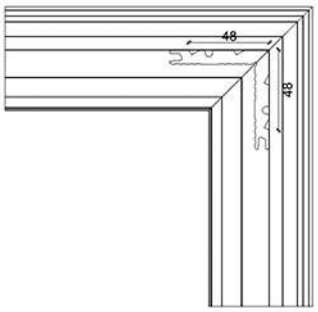
PCP-13/25

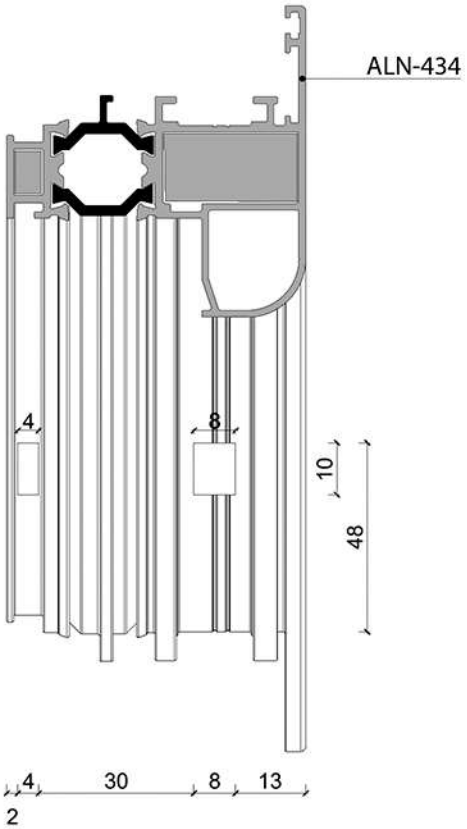


PCP-8/5



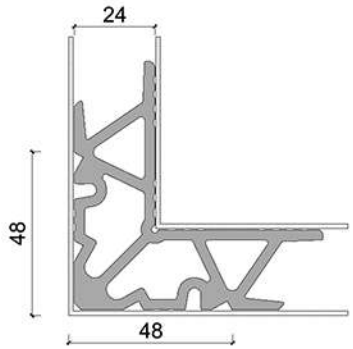




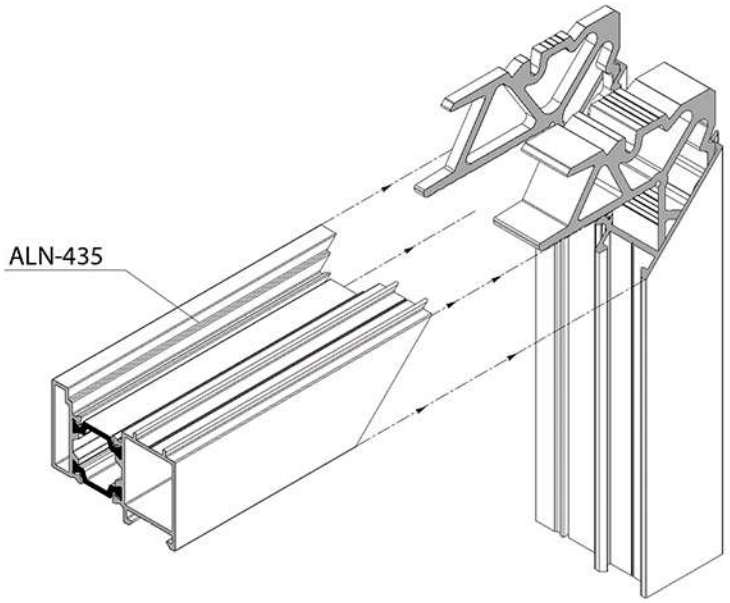


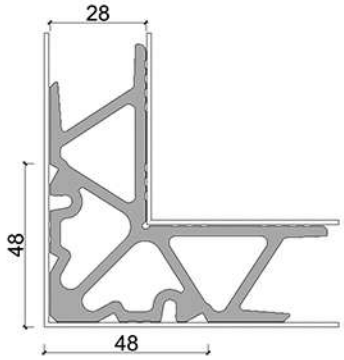
Hidden vent System 55 Series

Assembly Drawing

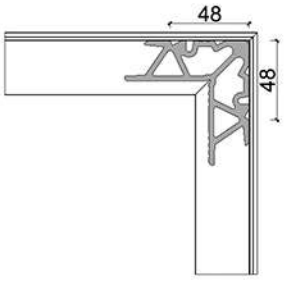


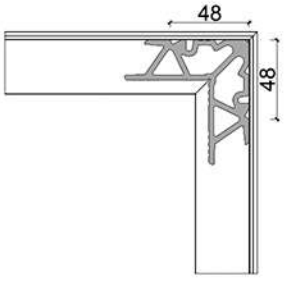
PCP-24 / 18

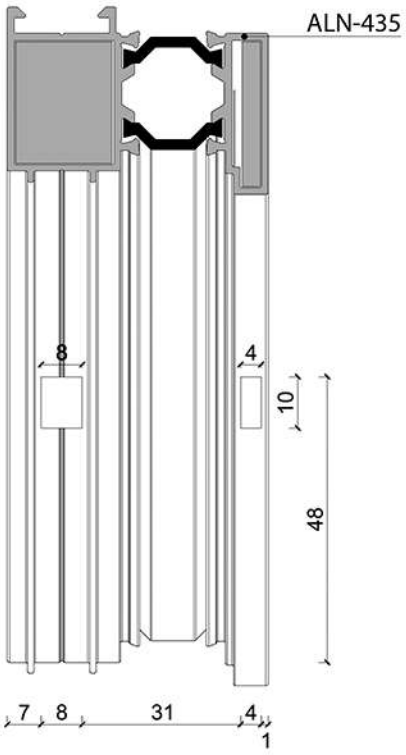




PCP-28 / 3

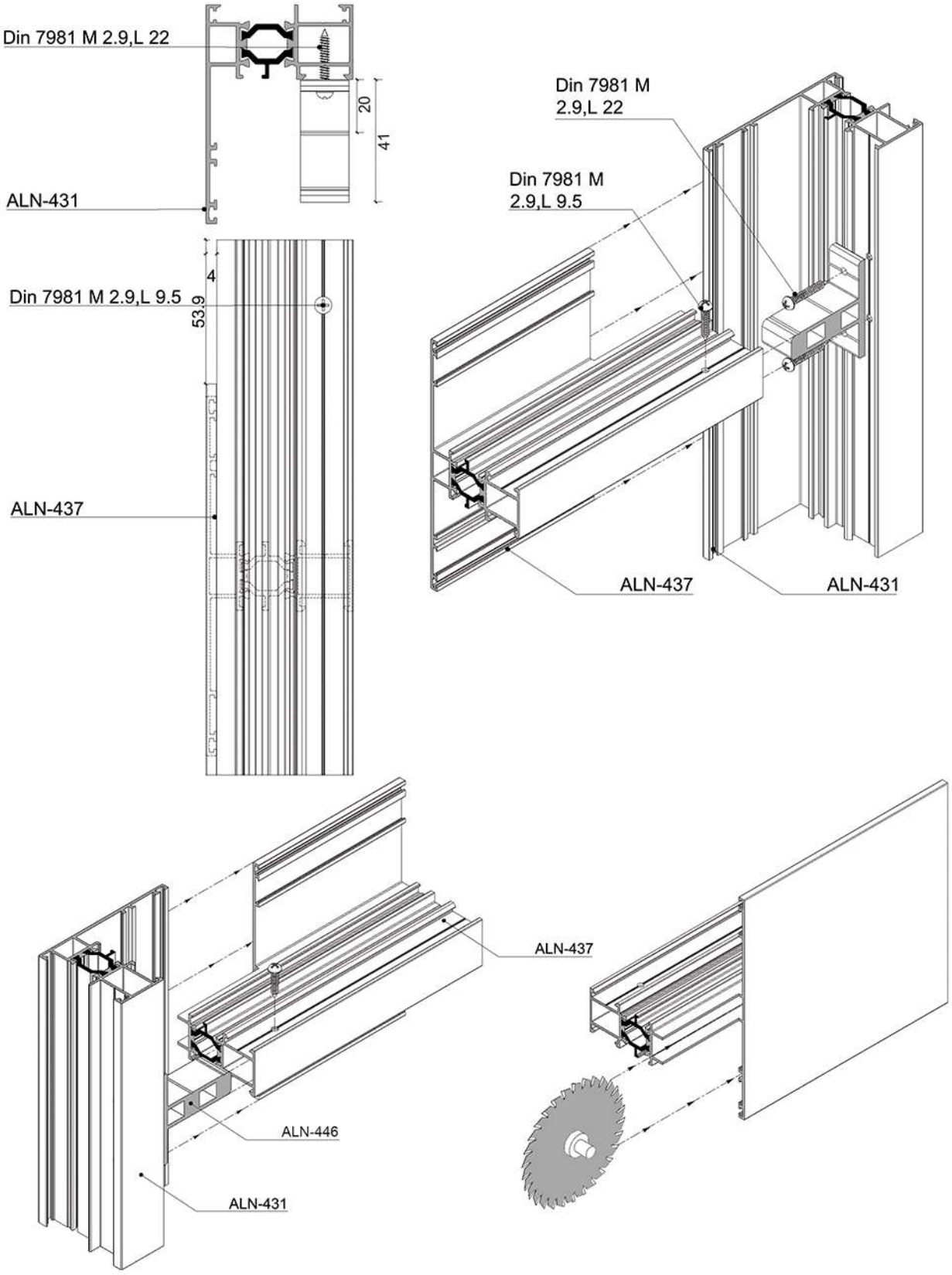






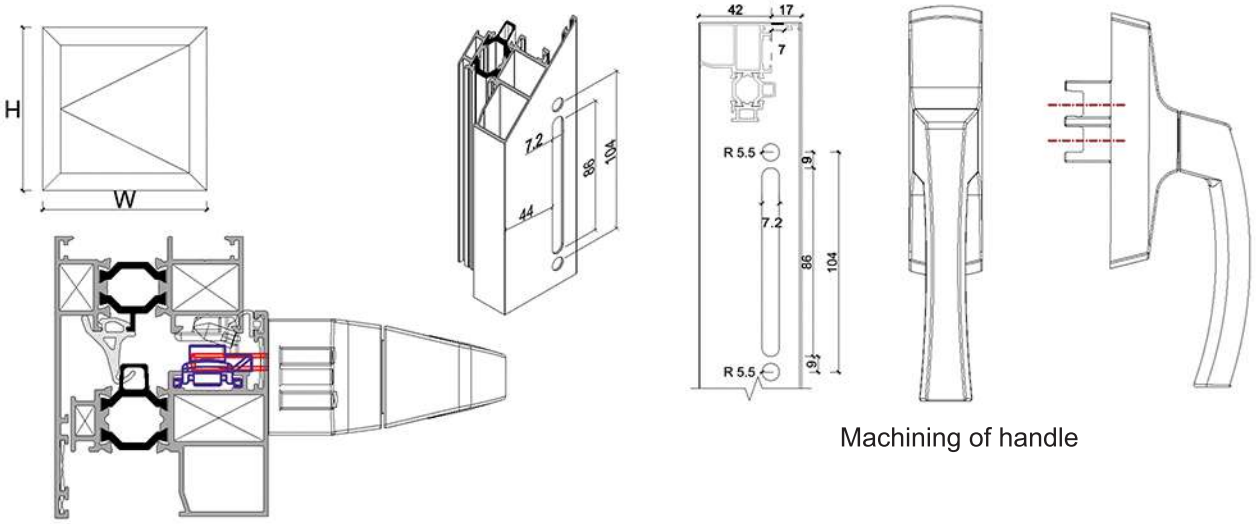
Hidden vent System 55 Series

Assembly Drawing



Hidden vent System 55 Series

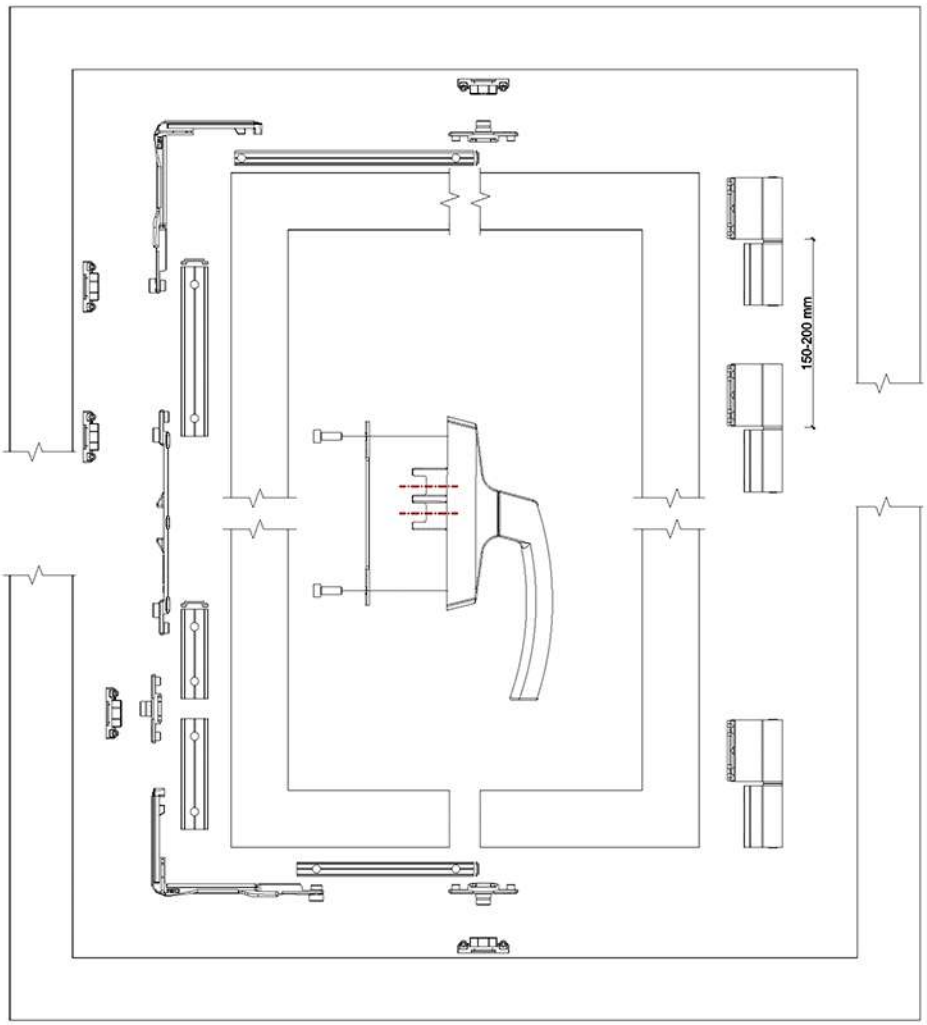
Hardware Installation



Machining of handle

1200 ≤ H

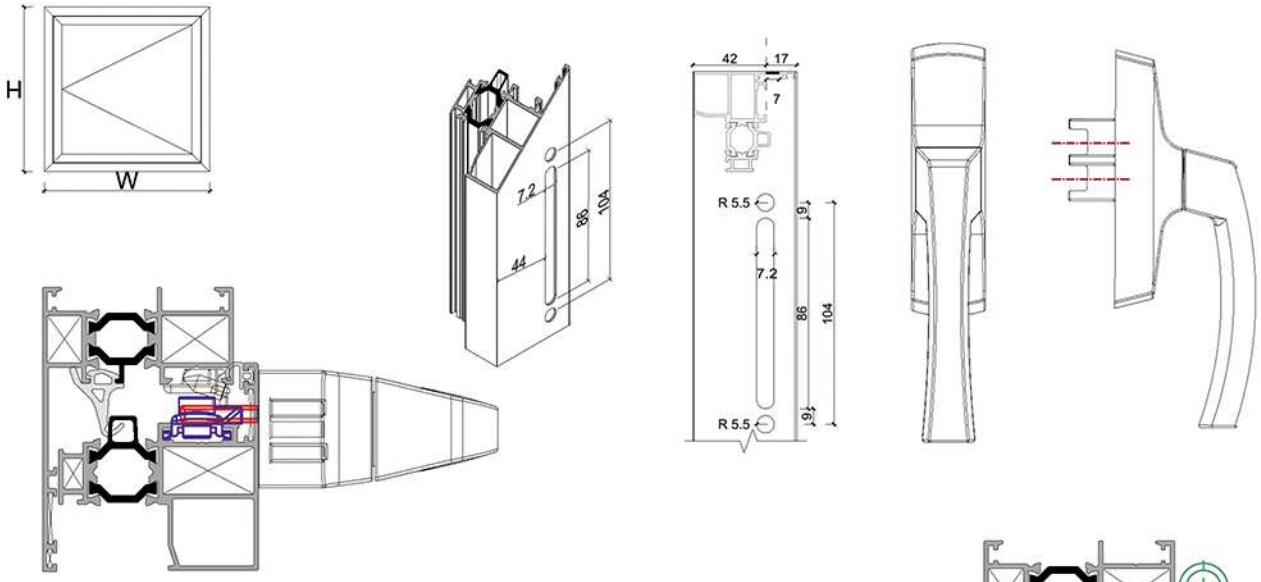
1200 ≤ W



Turn hardware installation

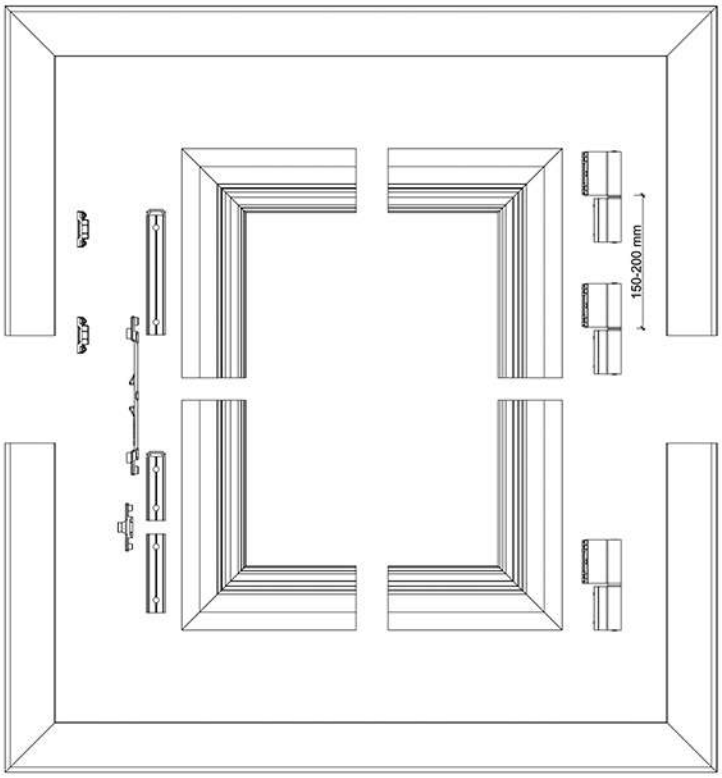
Hidden vent System 55 Series

Hardware Installation

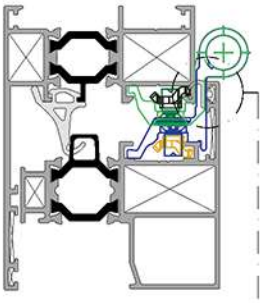


1200 ≥ H

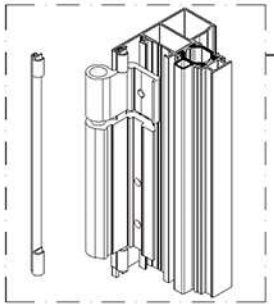
1200 ≥ W



Installation of turn hardware

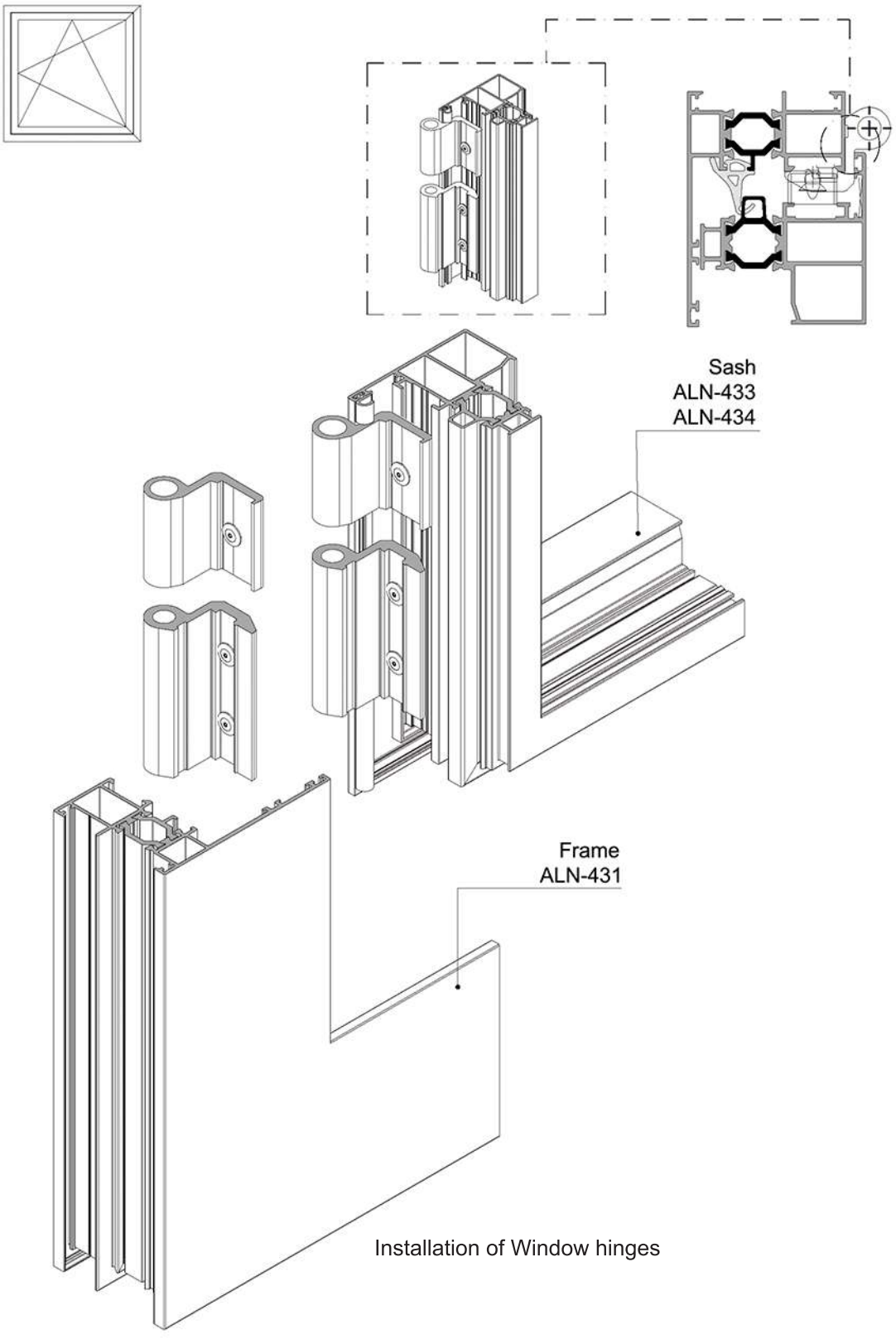


Window hinges Installation

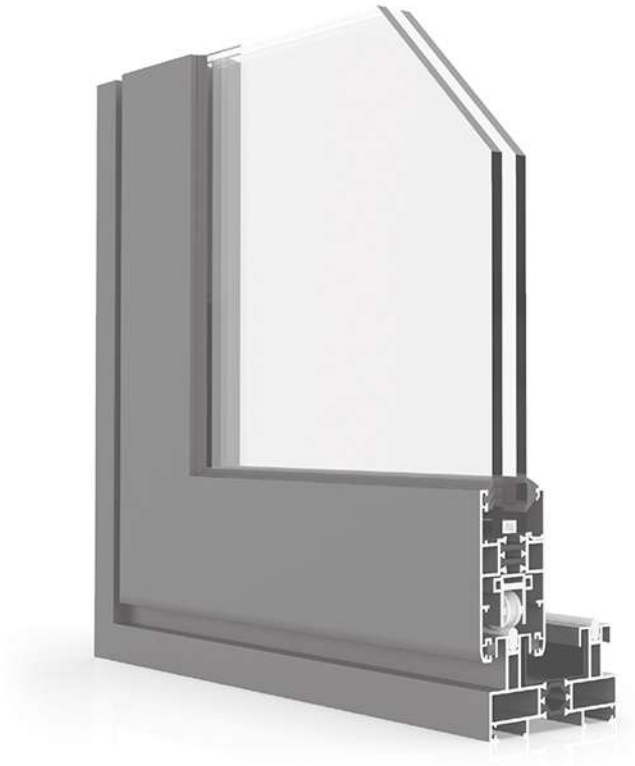


Hidden vent System 55 Series

Hardware Installation

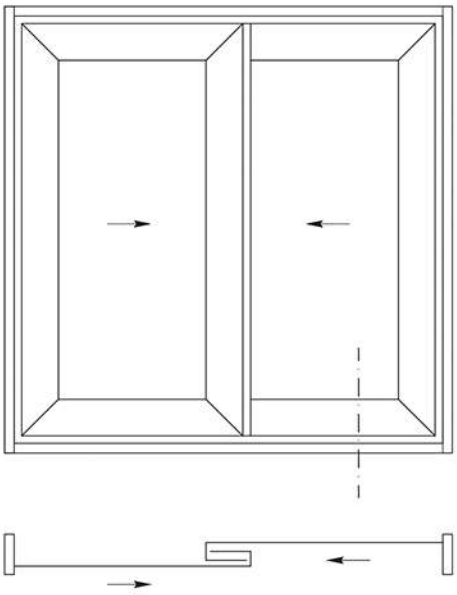


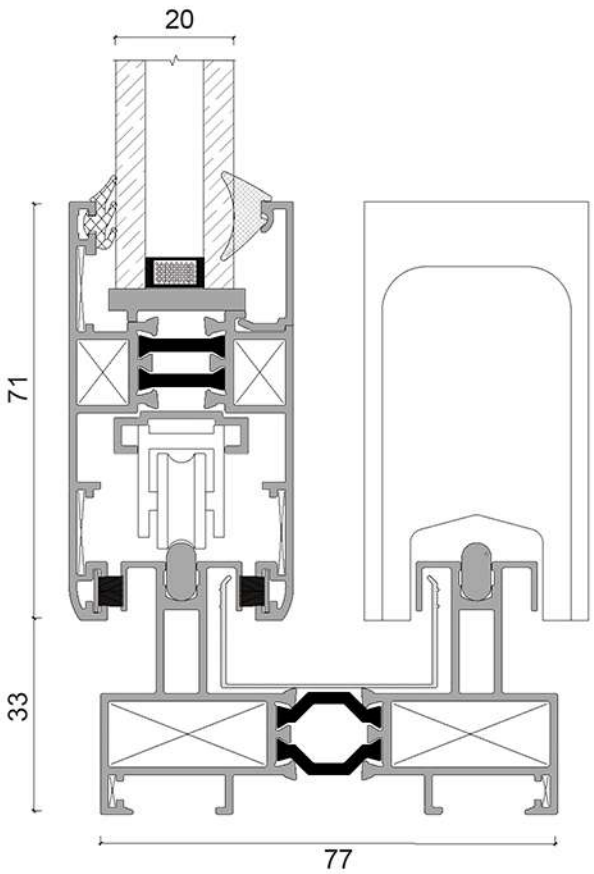
Installation of Window hinges



Slide System 77 Series

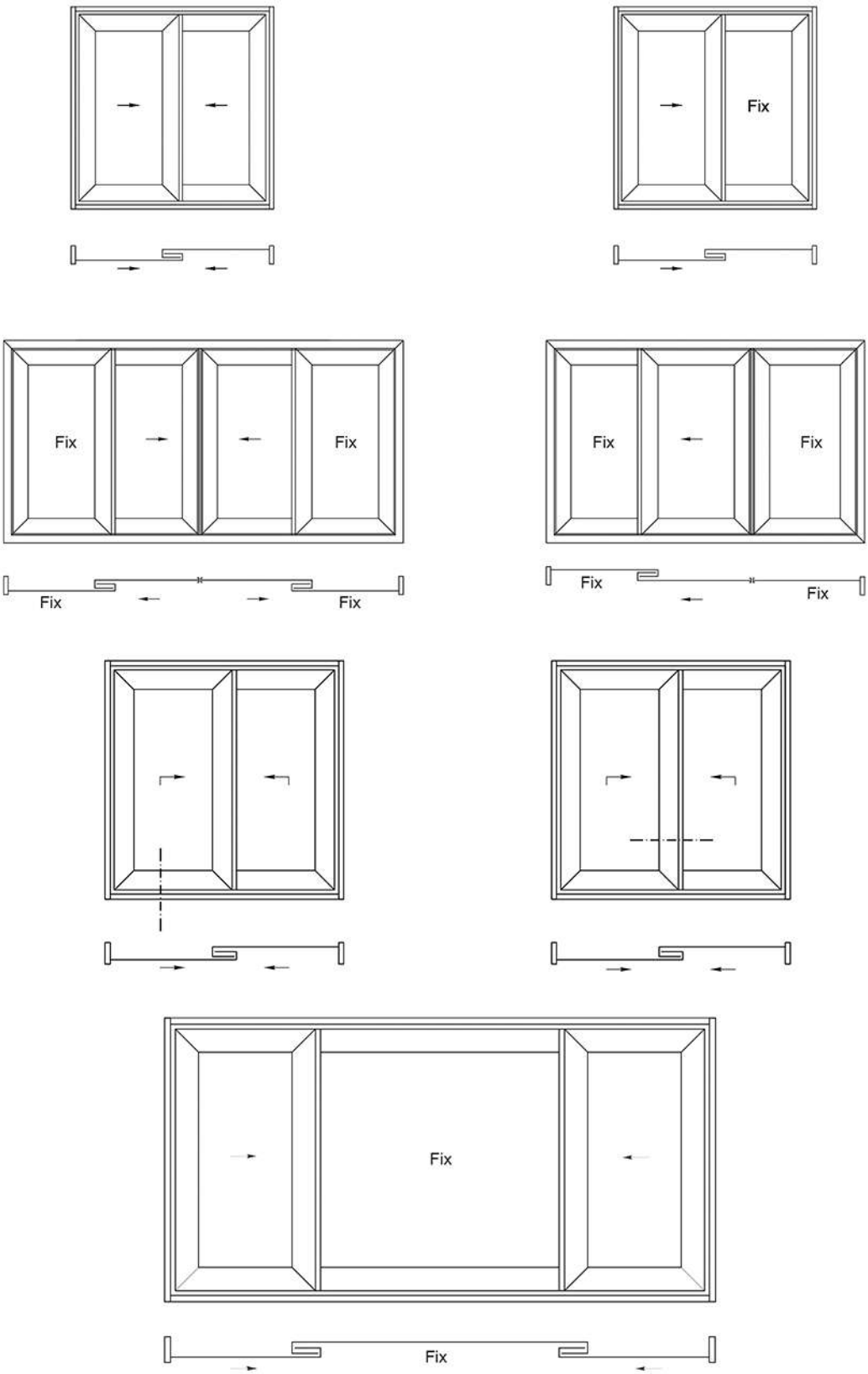
. Profile width:	77 - 110 mm
. Vent width:	38 mm
. Wall thickness:	1.3 - 1.4 mm
. Rubber description:	EPDM DIN 7863
. Glass thickness:	18 - 26 m
. Aluminum alloy extrusion:	EN AW 6063 T5
. Isulation bar :	Polyamide Width 18 mm
. Safety drainage system	
. Various typologies	





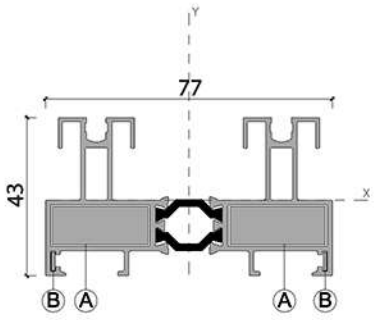
Slide System 77 Series

Typologies

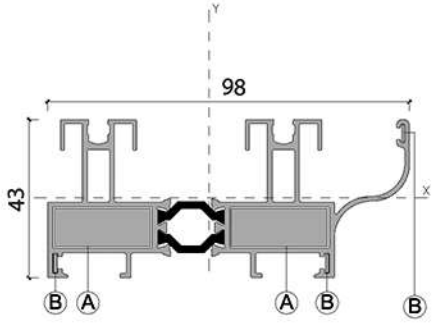


Slide System 77 Series

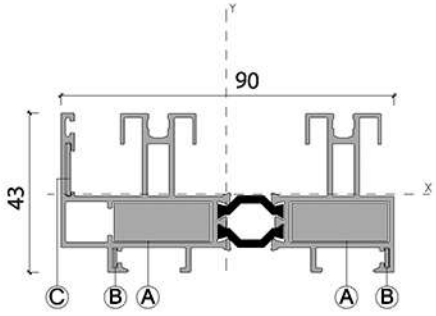
Profile & Accessories Information



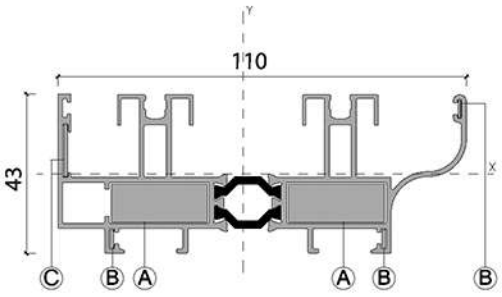
I_X: 8.40 cm⁴	I_Y: 32.54 cm⁴
Frame : ALN-451	A: PCP-11 / 26 mm
Weight: 1485 gr/m	B: MO19(399012)



I_X: 9.04 cm⁴	I_Y: 47.04 cm⁴
Frame : ALN-452	A: PCP-11 / 26 mm
Weight: 1640 gr/m	B: MO19(399012)



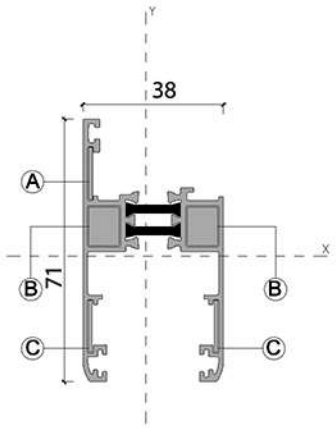
I_X: 9.53 cm⁴	I_Y: 49.22 cm⁴
Frame : ALN-453	A: PCP-11 / 26 mm
	B: MO19(399012)
Weight: 1696 gr/m	C: MM 77

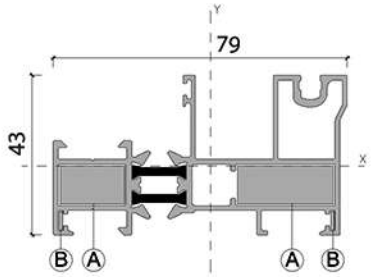


I_X: 10.15 cm⁴	I_Y: 67.82 cm⁴
Frame : ALN-454	A: PCP-11 / 26 mm
	B: MO19(399012)
Weight: 1850 gr/m	C: MM 77

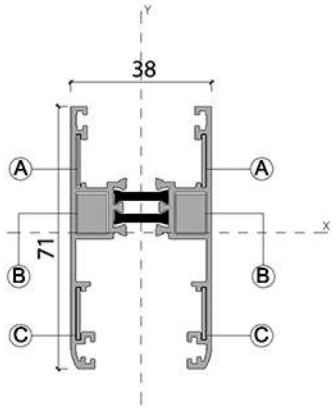
Slide System 77 Series

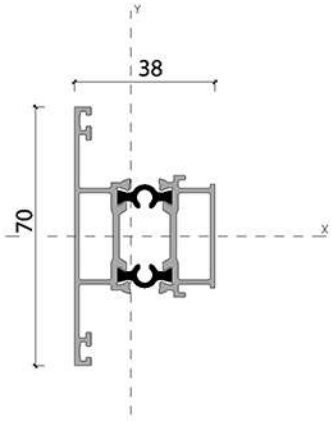
Profile & Accessories Information





I_X: 12.40 cm⁴	I_Y: 8.04 cm⁴	I_X: 7.53 cm⁴	I_Y: 31.76 cm⁴
Sash : ALN-455	A: MM 77	Monorail Frame: ALN-470	A: PCP-11 / 26 mm
	B: PCP-11 / 8 mm		B: PCP-11 / 17 mm
Weight: 1068 gr/m	C: MM 77	Weight: 1475 gr/m	C: MO19(399012)

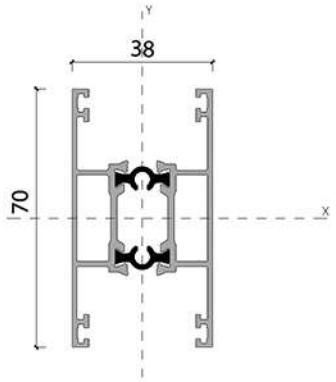


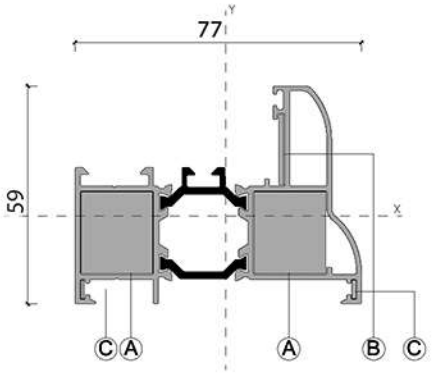


I_X: 15.44 cm⁴	I_Y: 9.43 cm⁴	I_X: 8.78 cm⁴	I_Y: 6.21 cm⁴
Sash : ALN-456	A: MM 77	Transom: ALN-458	–
	B: PCP-11 / 8 mm		
Weight: 1163 gr/m	C: MM 77	Weight: 1076 gr/m	–

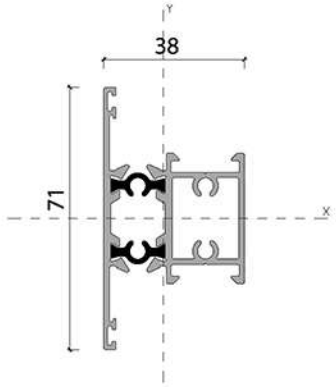
Slide System 77 Series

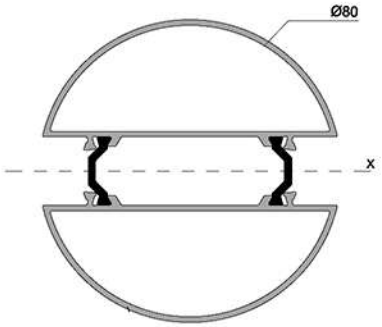
Profile & Accessories Information





I_X: 14.53 cm⁴	I_Y: 9.12 cm⁴	I_X: 11.62 cm⁴	I_Y: 29.73 cm⁴
Transom : ALN-459	–	Profile: ALN-466	A: PCP-22 / 19 mm
Weight: 1270 gr/m	–	Weight: 1435 gr/m	B: fuji 2000
			C: MO 19

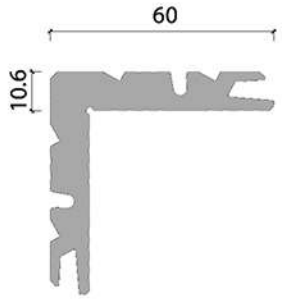




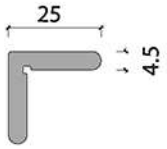
I_X: 8.50 cm⁴	I_Y: 7.10 cm⁴	I_X: 30.79 cm⁴	I_Y: 33.53 cm
Transom : ALN-471	–	Coupling : ALN-414	–
Weight: 1166 gr/m	–	Weight : 1720 gr/m	–

Slide System 77 Series

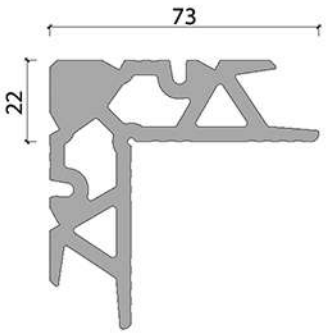
Profile & Accessories Information



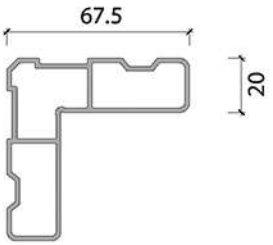
Corner Joint: PCP11	Weight: 2549 gr/m



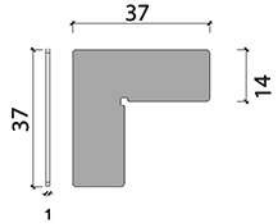
Corner Joint: MO 19 (399012)	Weight: –



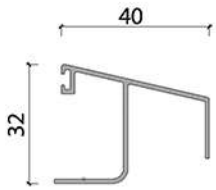
Corner joint: PCP-22	Weight : 3718 gr/m



Corner Joint: PCP 20	Weight: 1377 gr/m



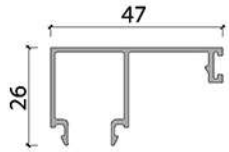
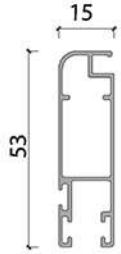
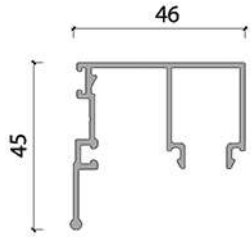
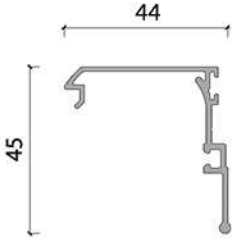
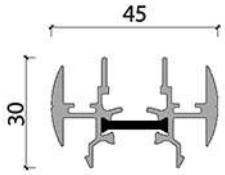
Corner Joint: MM77 (399138)	Weight: –



Cap : ALN-361	Weight: 370 gr/m

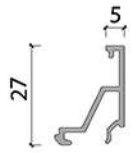
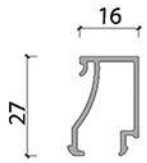
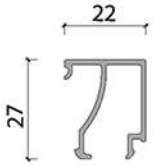
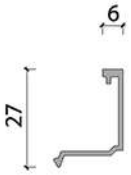
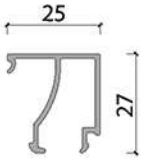
Slide System 77 Series

Profile & Accessories Information

			
Cap: ALN-472	Weight: 413 gr/m	Fly screen : ALN-207	Weight: 448 gr/m
			
Cap: ALN-473	Weight: 634 gr/m	Rail : ALN-462	Weight: 119 gr/m
			
Interlock: ALN-457	Weight: 435 gr/m	Adjoining profile : ALN-464	Weight: 749 gr/m

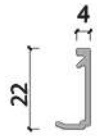
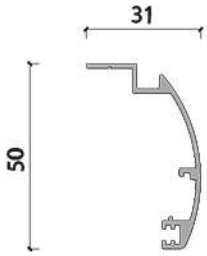
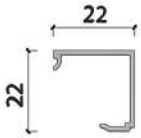
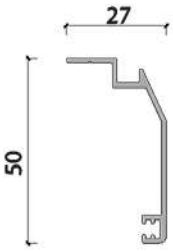
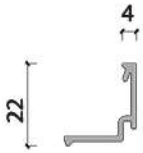
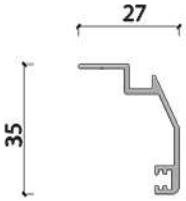
Slide System 77 Series

Profile & Accessories Information

			
Glazing beads: ALN-321	Weight : 224 gr/m	Glazing beads: ALN-423	Weight : 281 gr/m
			
Glazing bead : ALN-323	Weight : 302 gr/m	Glazing bead: ALN-424	Weight : 167 gr/m
			
Glazing bead : ALN-421	Weight: 313 gr/m	Glazing bead : ALN-460	Weight: 127 gr/m

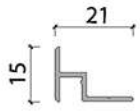
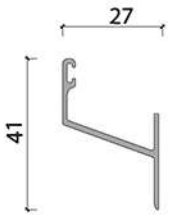
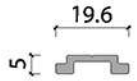
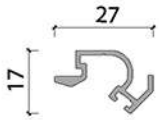
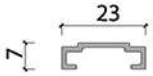
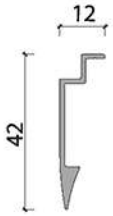
Slide System 77 Series

Profile & Accessories Information

			
Glazing bead : ALN-461	Weight: 119 gr/m	Flange profile: ALN-219	Weight : 362 gr/m
			
Glazing bead : ALN-463	Weight: 178 gr/m	Flange profile: ALN-221	Weight : 302 gr/m
			
Glazing bead : ALN-474	Weight: 170 gr/m	Flange profile: ALN-222	Weight : 254 gr/m

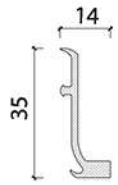
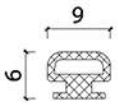
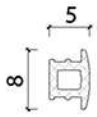
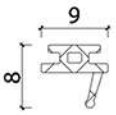
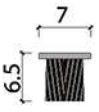
Slide System 77 Series

Profile & Accessories Information

			
Profile : ALN-228	Weight: 135 gr/m	profile: ALN-475	Weight : 275 gr/m
			
Profile : ALN-331	Weight: 140 gr/m	Profile : ALN-429	Weight : 235 gr/m
			
Profile : ALN-364	Weight: 140 gr/m	Profile : ALN-430	Weight : 230 gr/m

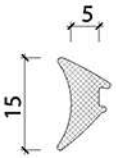
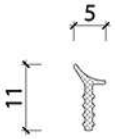
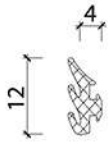
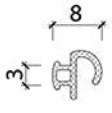
Slide System 77 Series

Profile & Accessories Information

			
Gasket : MOC 77	Weight : 131 gr/m	Gasket : MO 60(Jenta)	Weight : 39 gr/m
			
Gasket : 51069	Weight: 27 gr/m	Gasket : 51990	Weight: 34 gr/m
			
Gasket : MO 60	Weight: 26 gr/m	PB7-3P-70-650	Weight: –

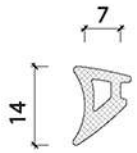
Slide System 77 Series

Profile & Accessories Information

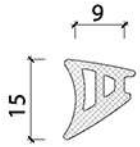
			
PB7-3P-70-800	Weight: –	Gasket: EP-016	Weight : 77 gr/m
			
PB7-3P-70-500	Weight: –	Gasket: EP-015	Weight : 21 gr/m
			
Gasket: MO68	Weight : 38 gr/m	Gasket: EP-018	Weight : 27 gr/m

Slide System 77 Series

Profile & Accessories Information



Gasket: EP-019	Weight : 61 gr/m

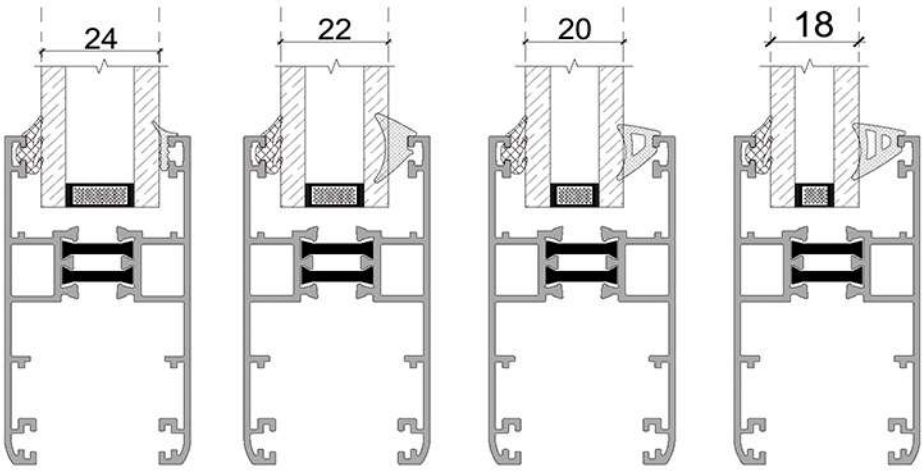


Gasket: EP-021	Weight : 80 gr/m

Slide System 77 Series

Glazing Table

ALN-456

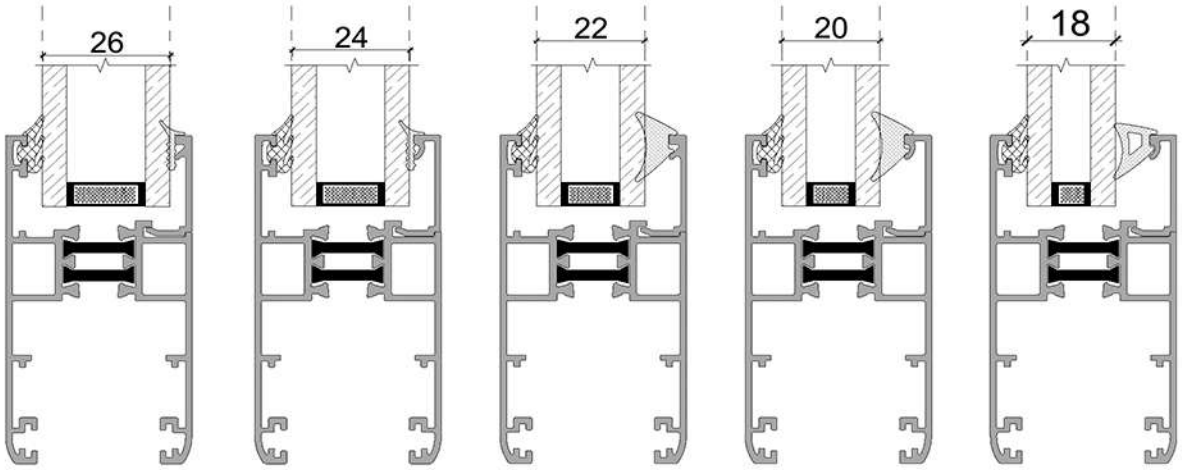


Glazing Thickness	Gasket Inside	Gasket Outside
18 mm	7.5 EP-021	MO68 3 mm
20 mm	5.5 EP-019	MO68
22 mm	4.5 EP-016	MO68
24 mm	1.9 EP-015	MO68

Slide System 77 Series

Glazing Table

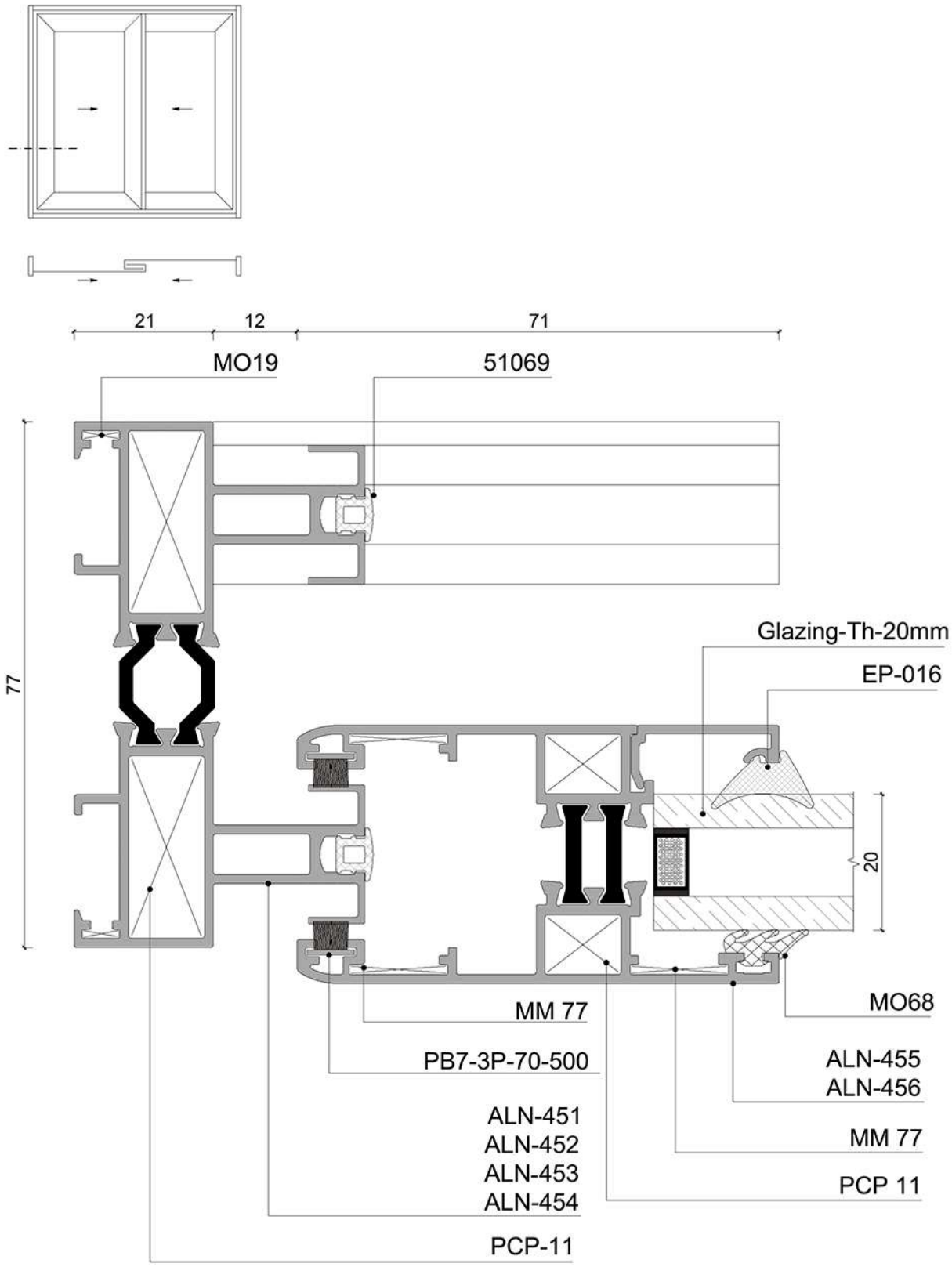
ALN-455



Glazing Thickness	Gasket Inside	Gasket Outside	Glazing Bead
18 mm	5.5 EP-019	MO68	ALN-460
20 mm	4.5 EP-016	MO68	ALN-460
22 mm	4.5 EP-016	MO68	ALN-461
24 mm	1.9 EP-015	MO68	ALN-460
26 mm	1.9 EP-015	MO68	ALN-461

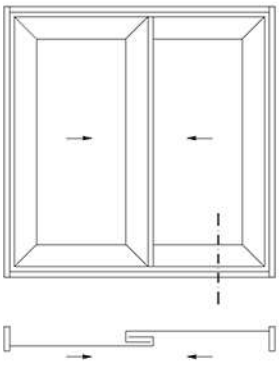
Slide System 77 Series

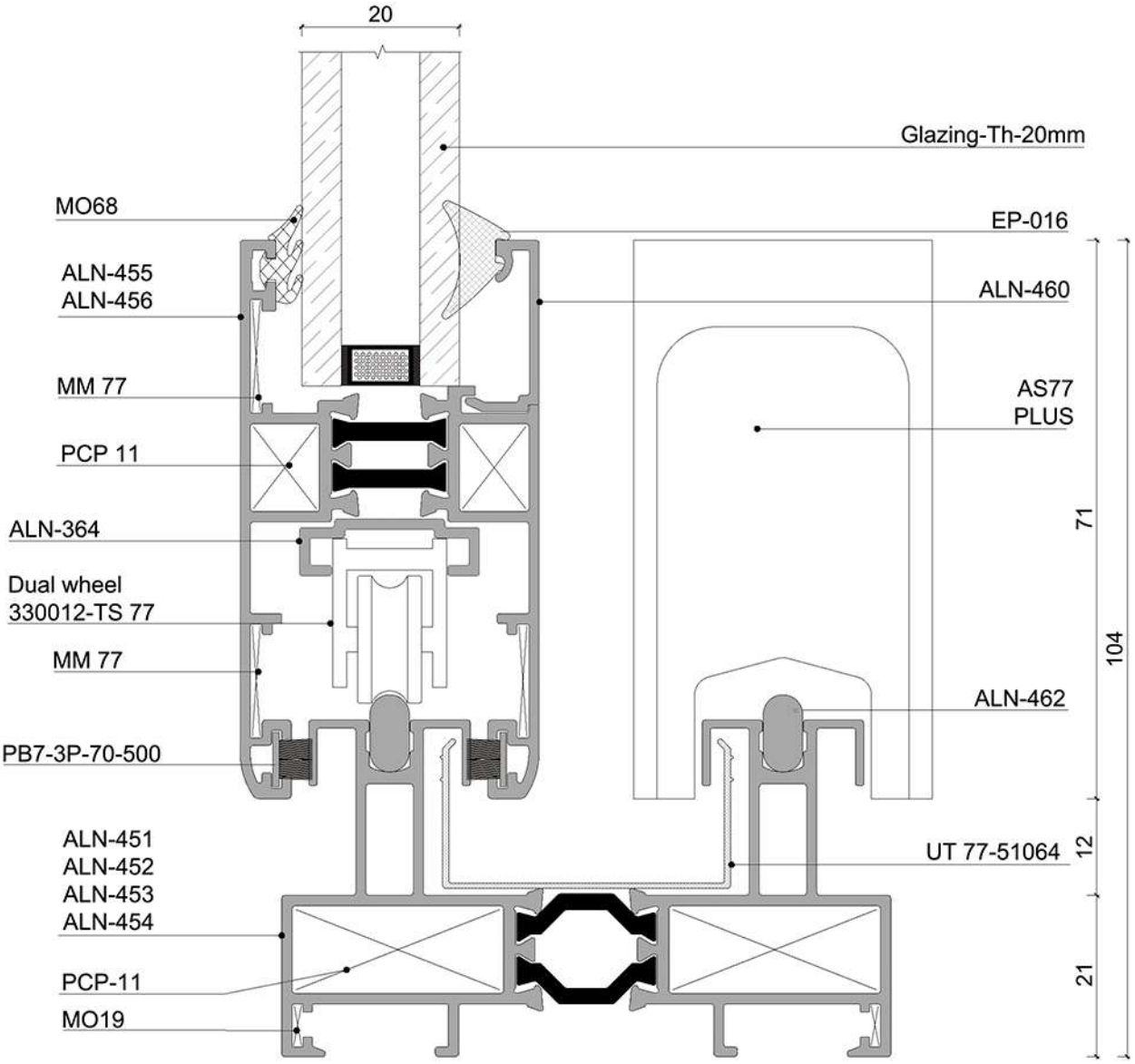
Fabrication Detailes



Slide System 77 Series

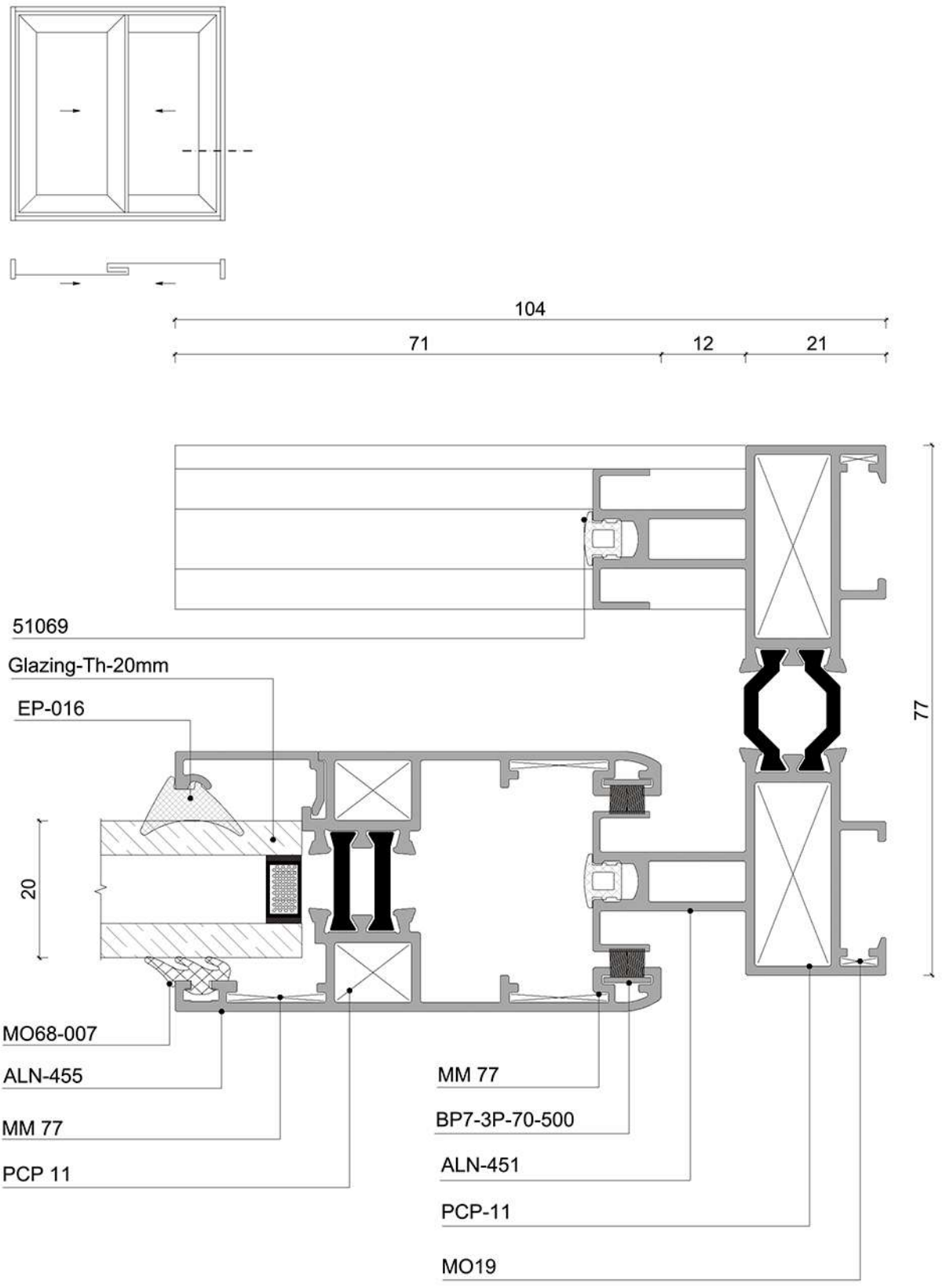
Fabrication Detailes





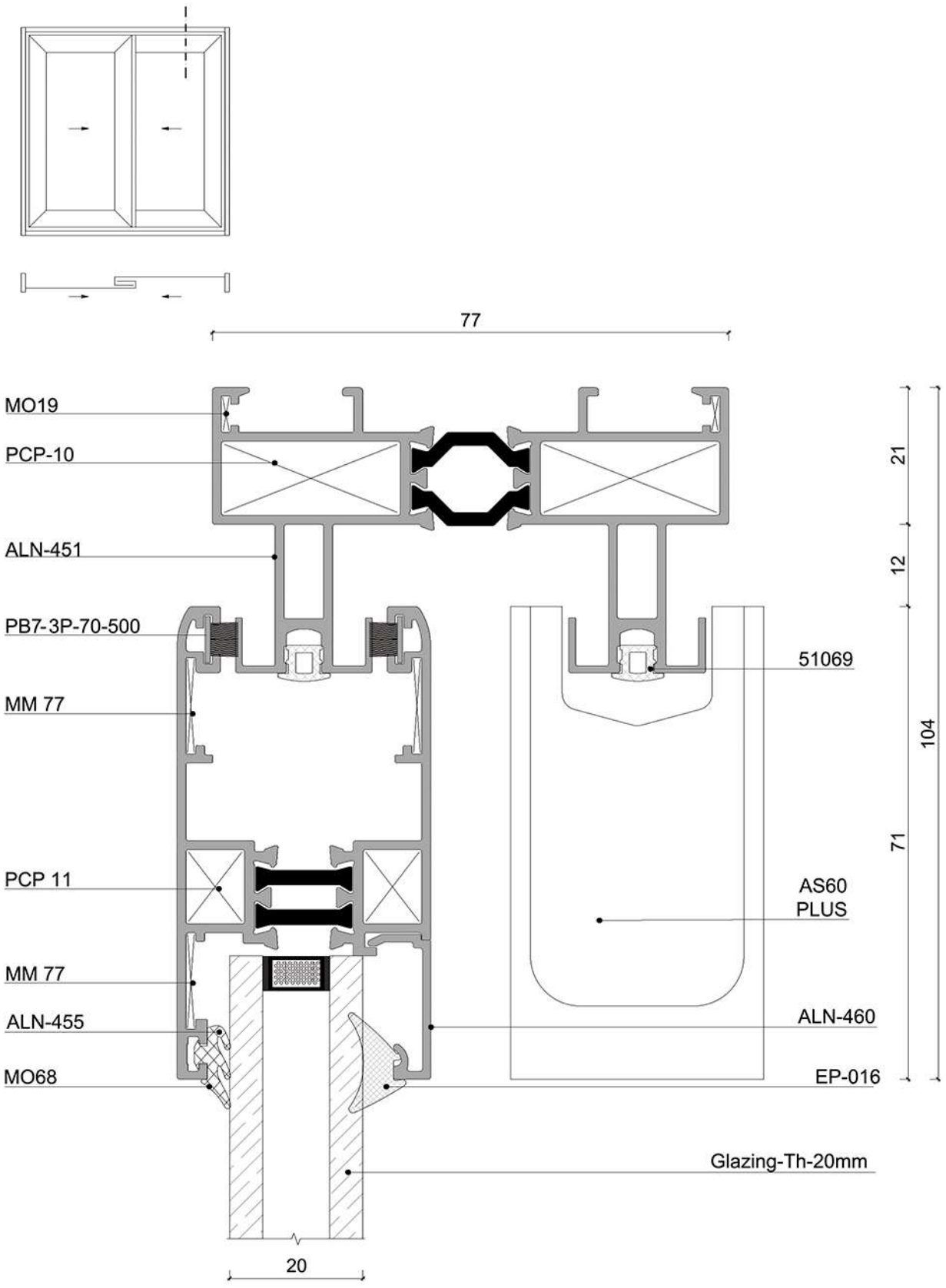
Slide System 77 Series

Fabrication Detailes



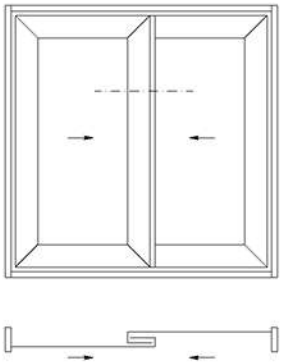
Slide System 77 Series

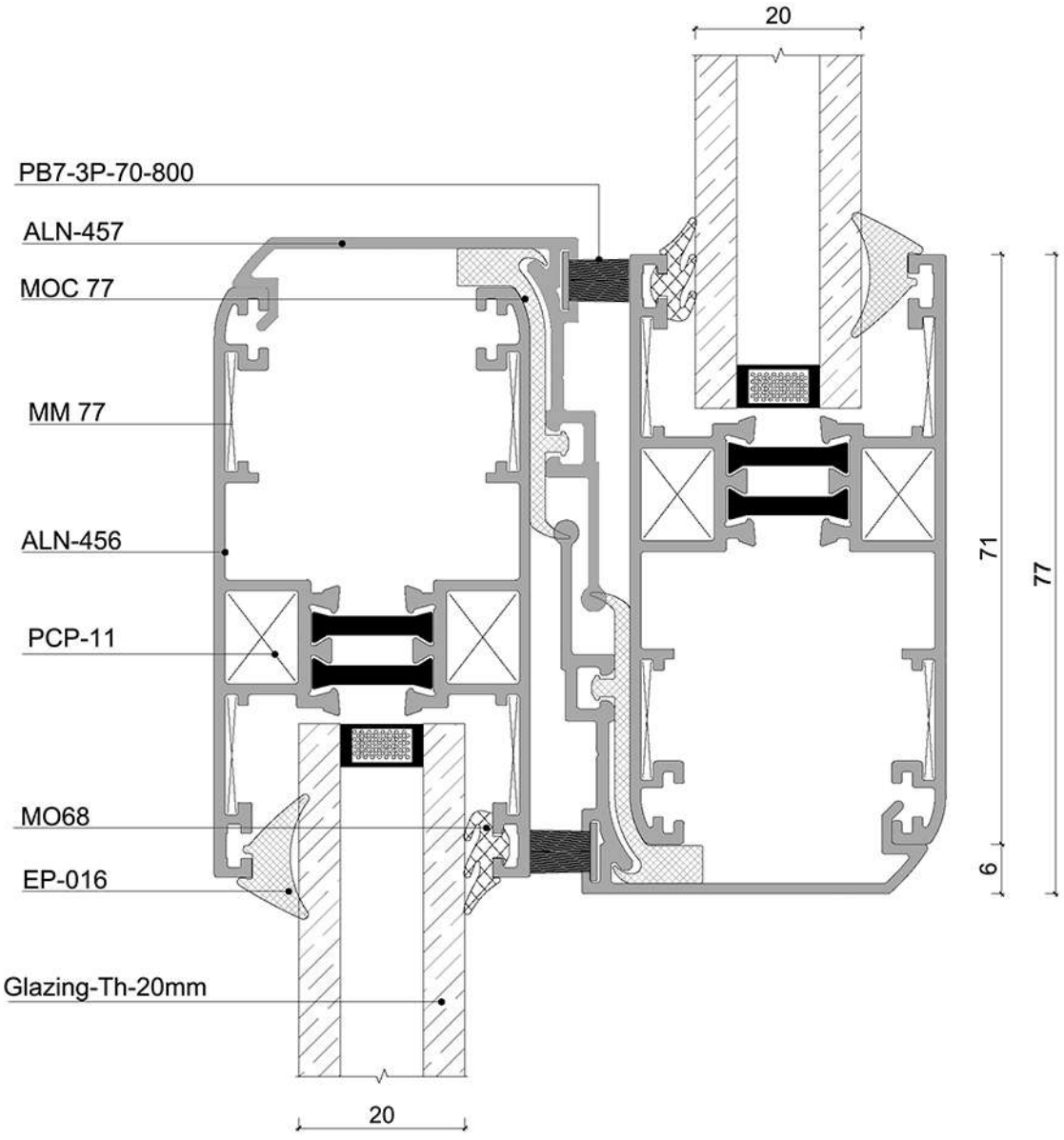
Fabrication Detailes



Slide System 77 Series

Fabrication Detailes

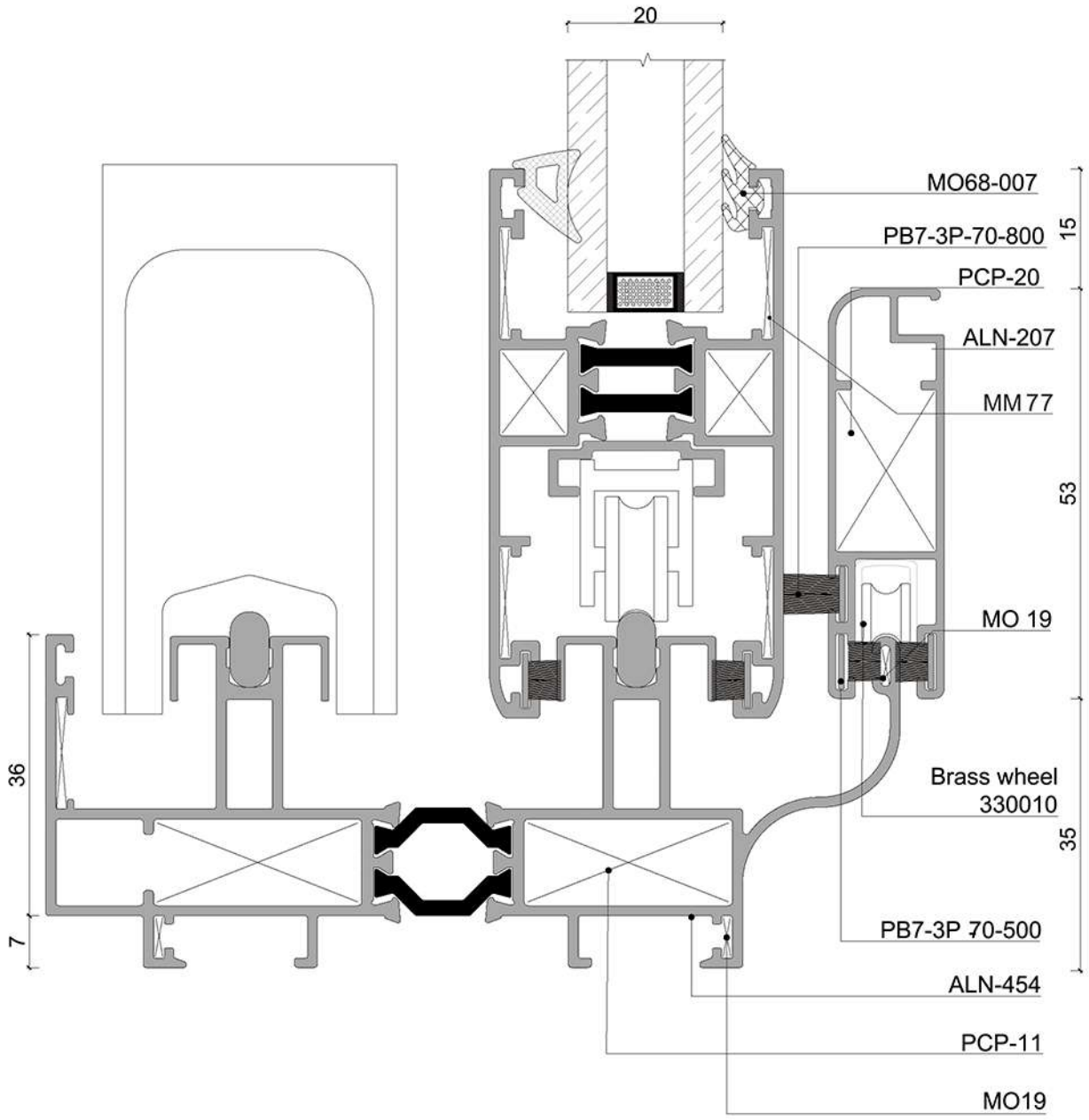




Slide System 77 Series

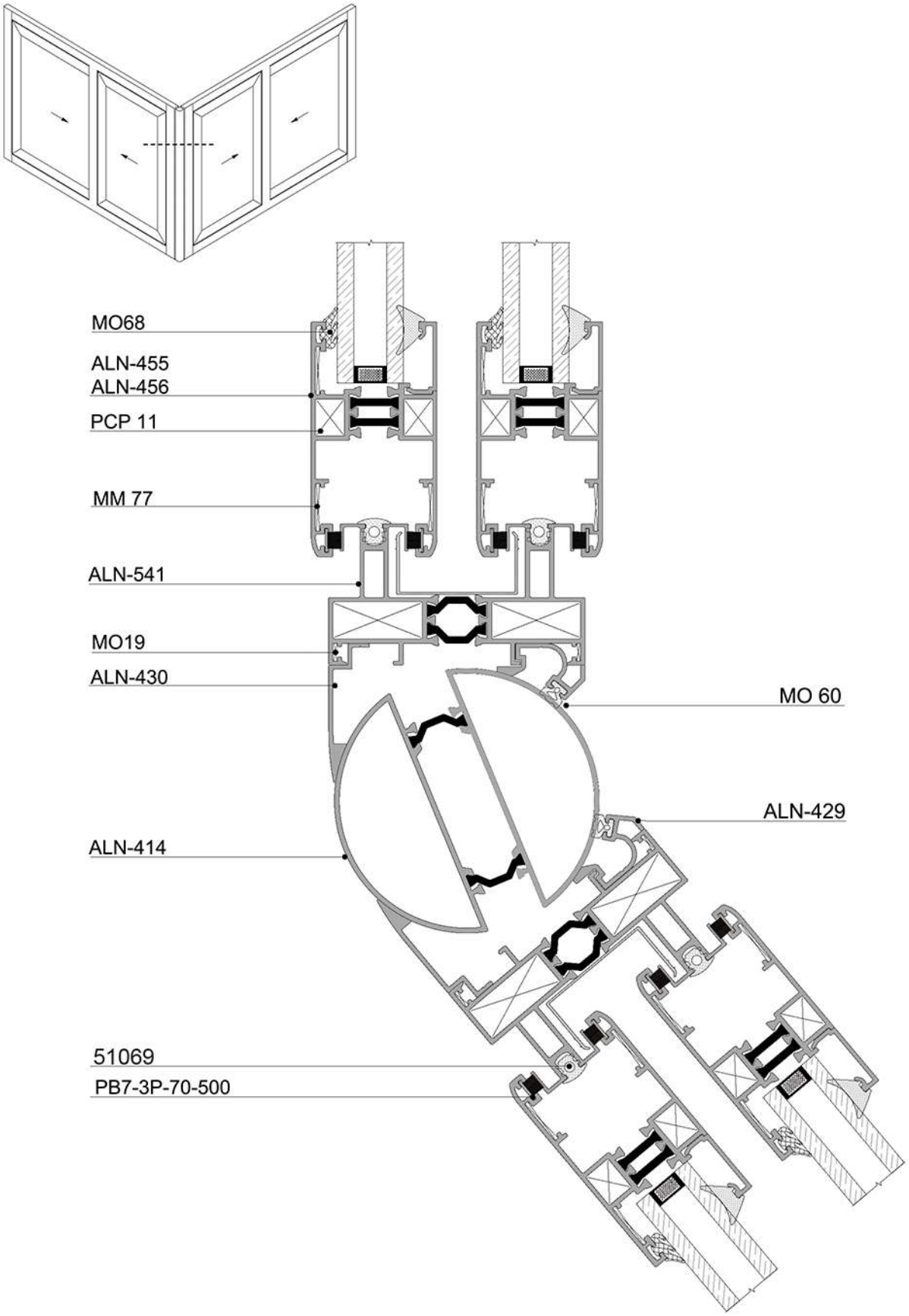
Fabrication Detailes





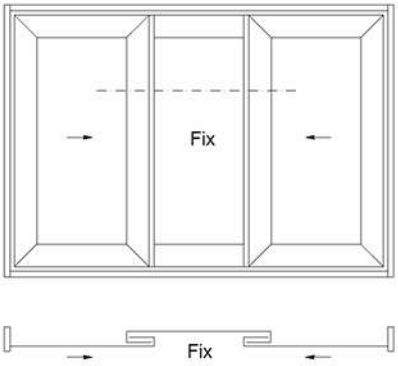
Slide System 77 Series

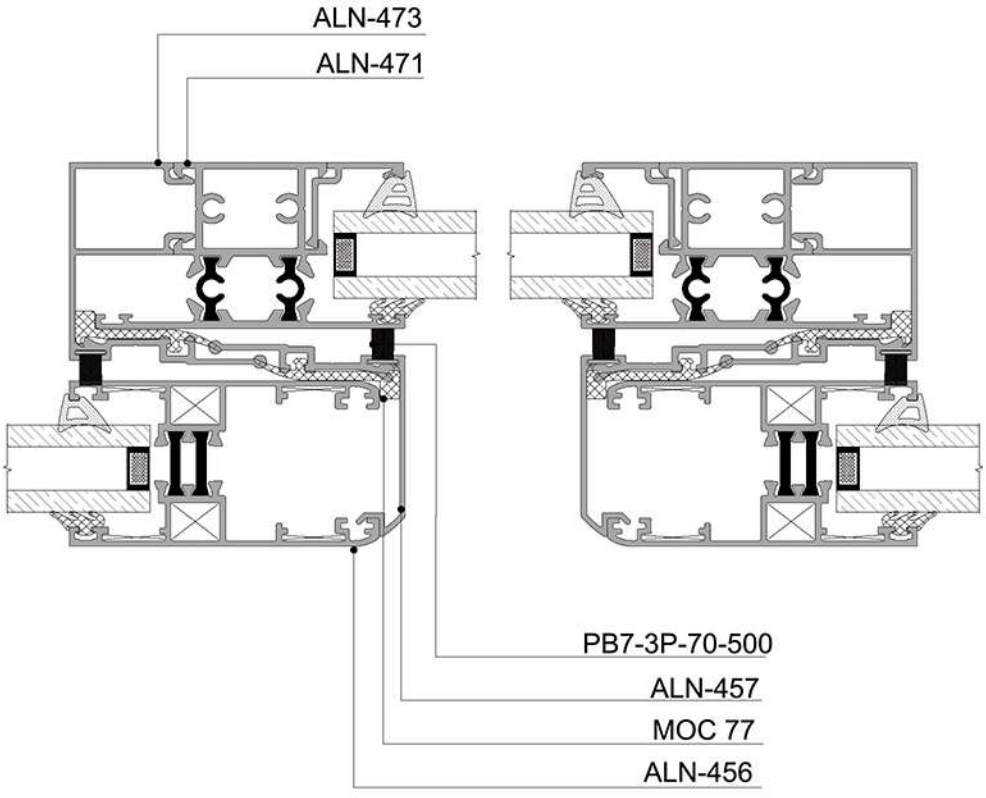
Fabrication Detailes



Slide System 77 Series

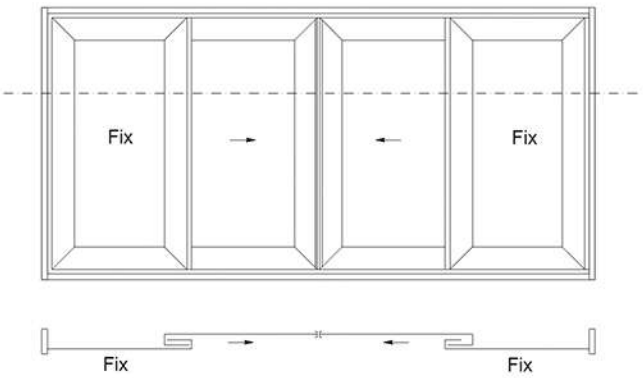
Fabrication Detailes

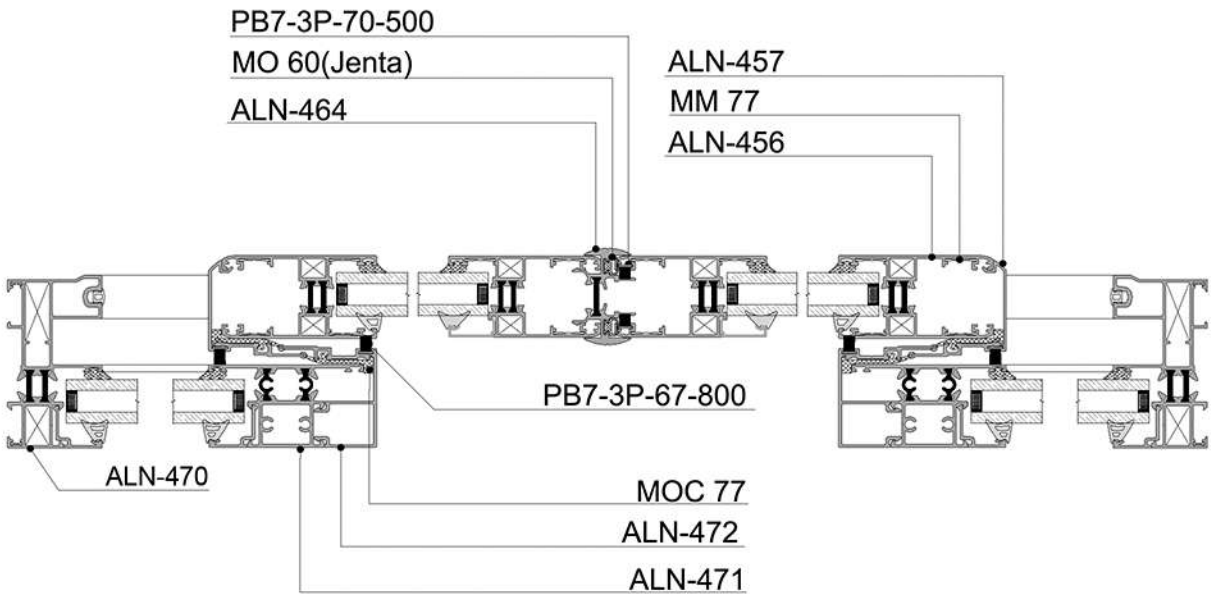




Slide System 77 Series

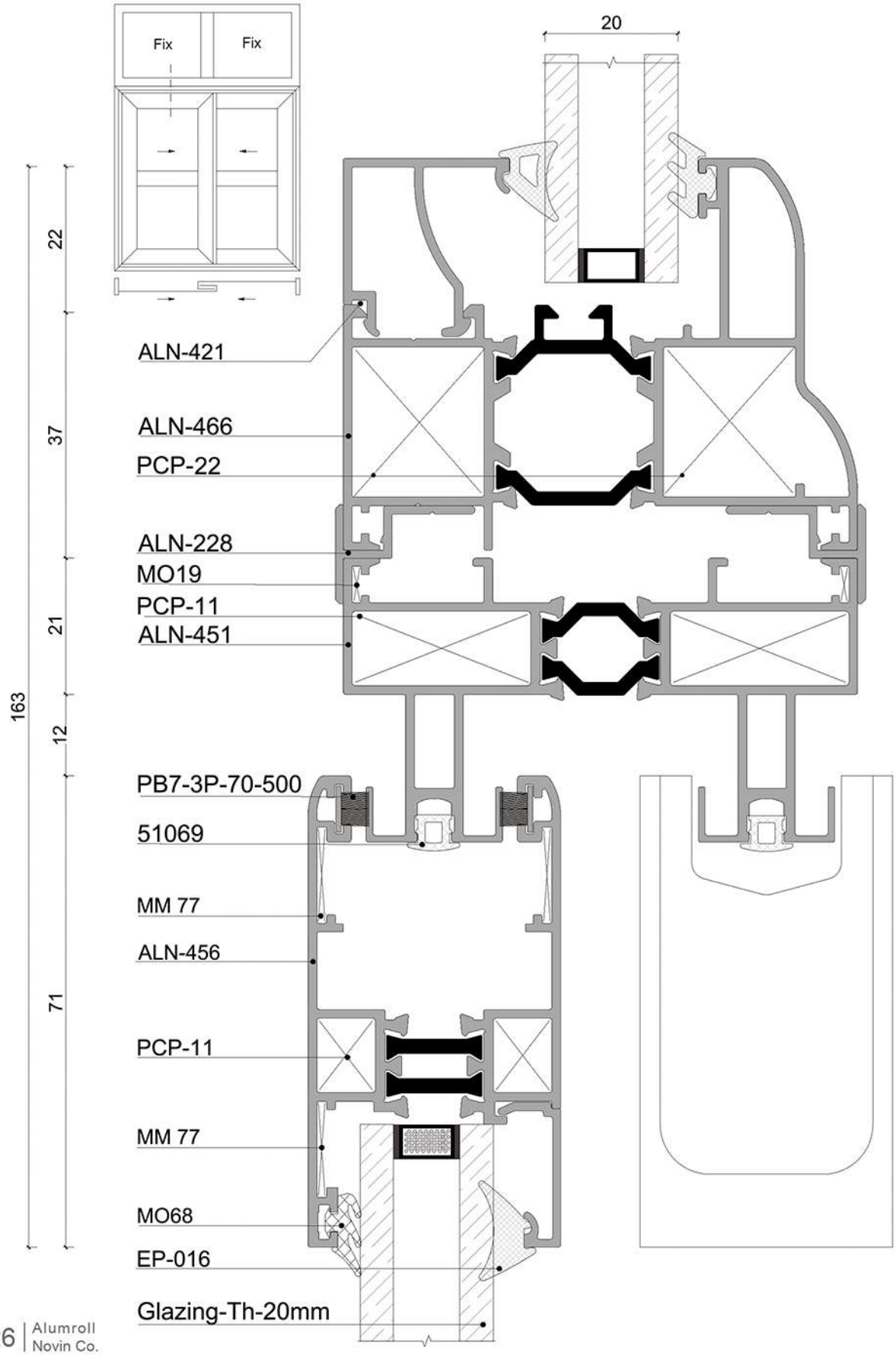
Fabrication Detailes





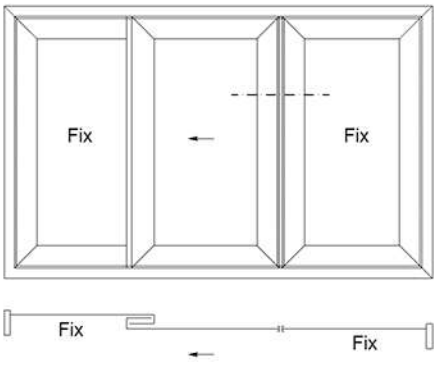
Slide System 77 Series

Fabrication Detailes



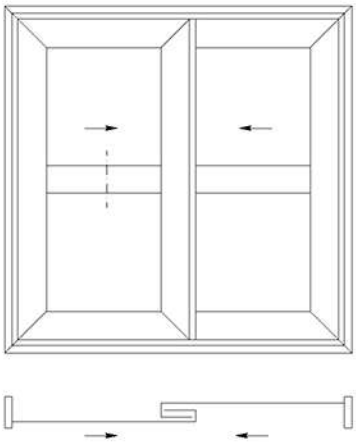
Slide System 77 Series

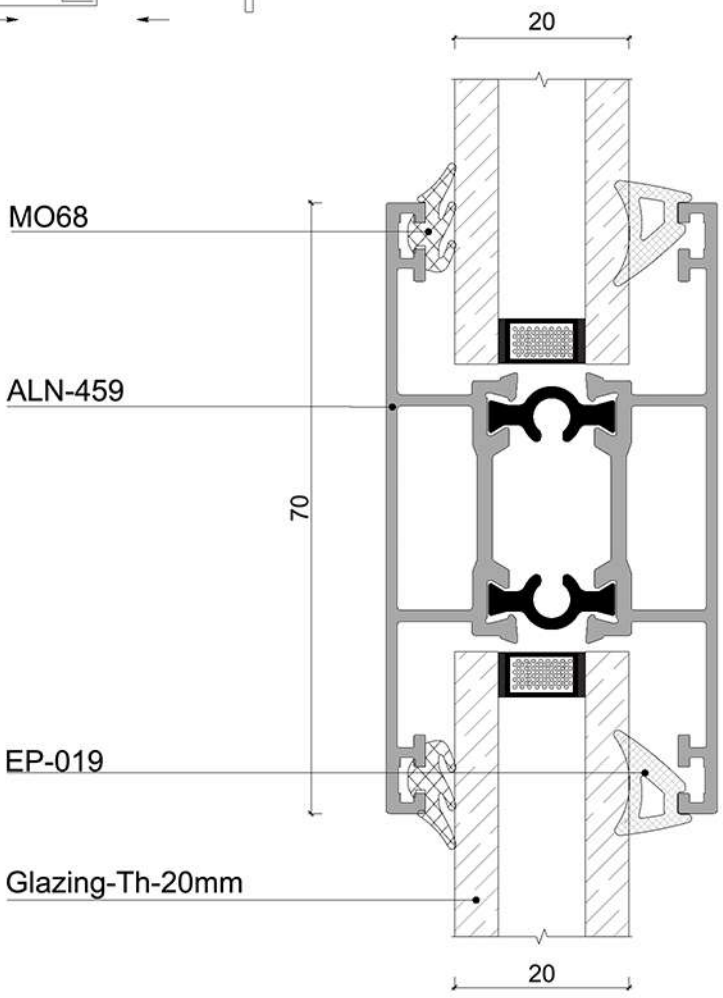
Fabrication Detailes



Slide System 77 Series

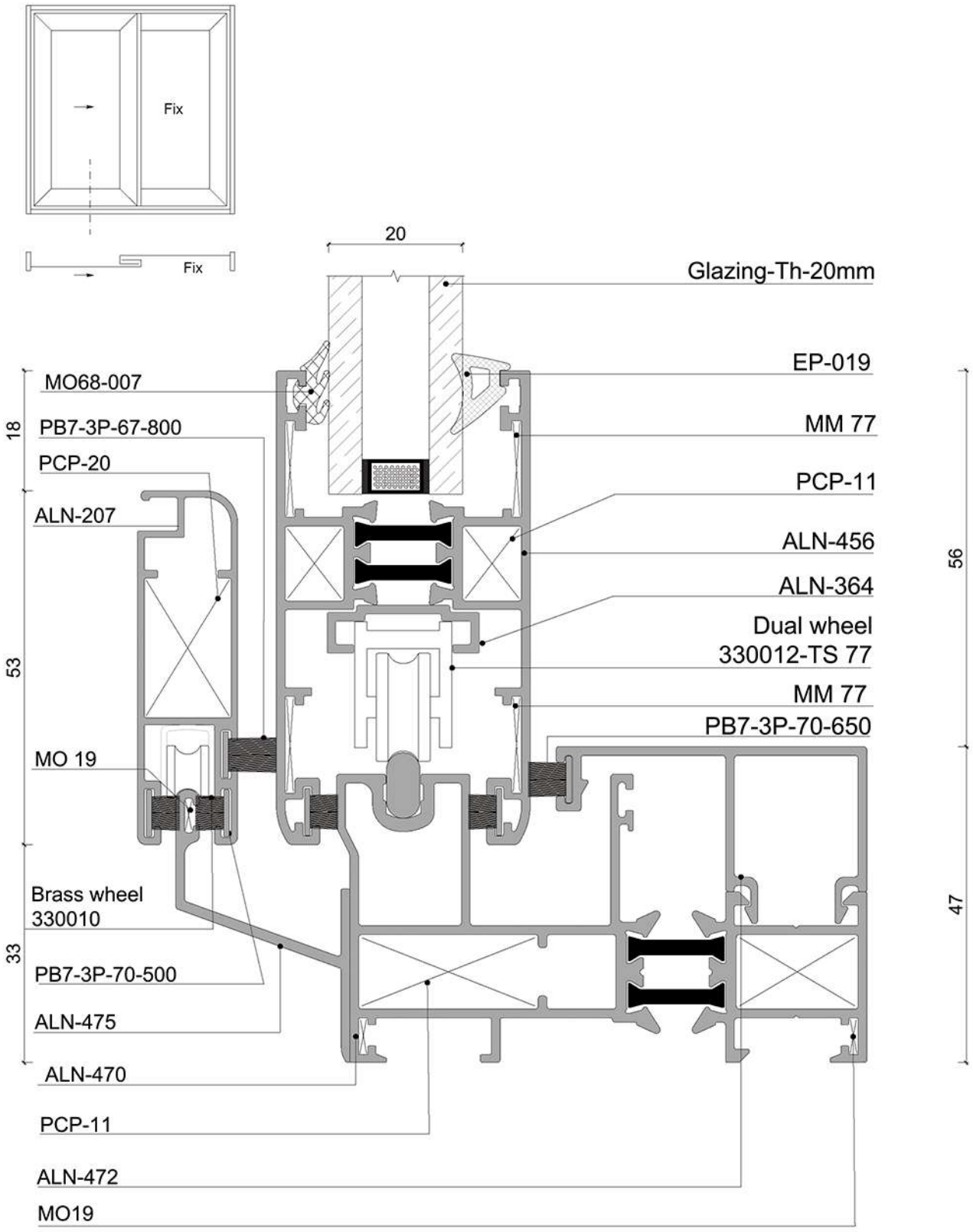
Fabrication Detailes





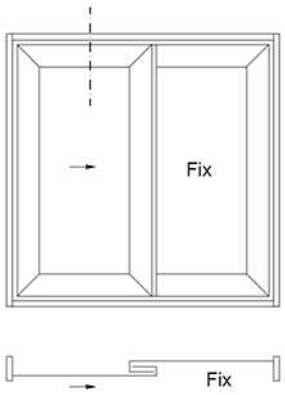
Slide System 77 Series

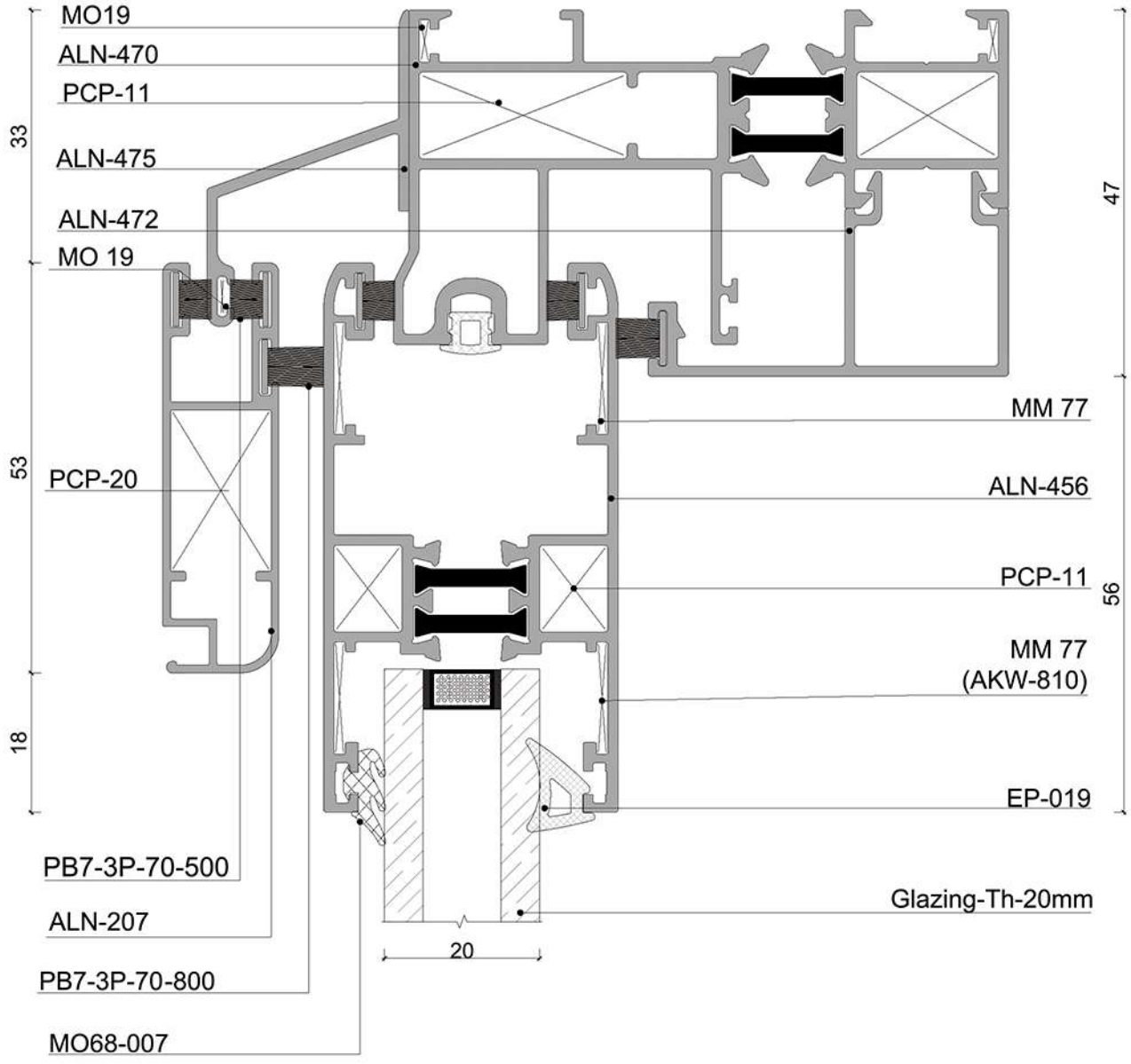
Fabrication Detailes



Slide System 77 Series

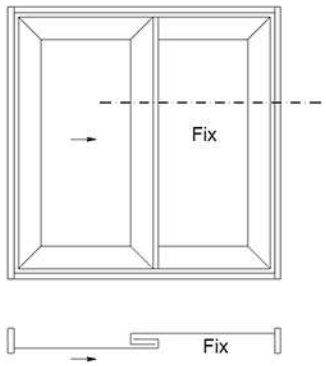
Fabrication Detailes

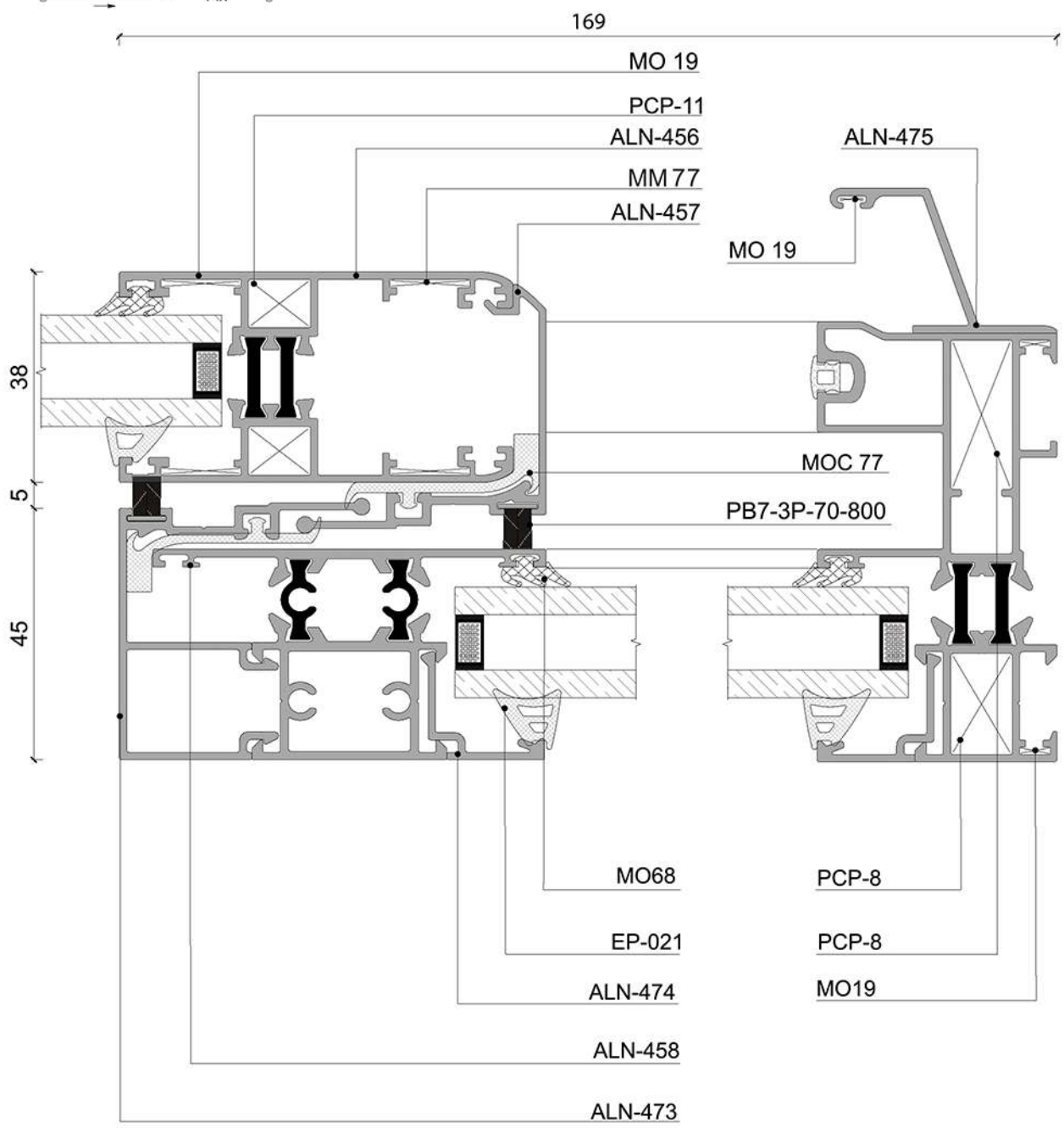




Slide System 77 Series

Fabrication Detailes

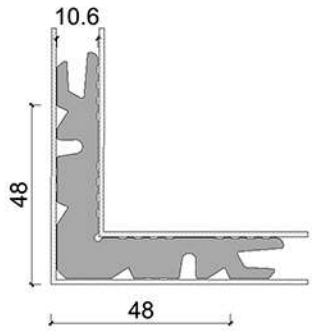




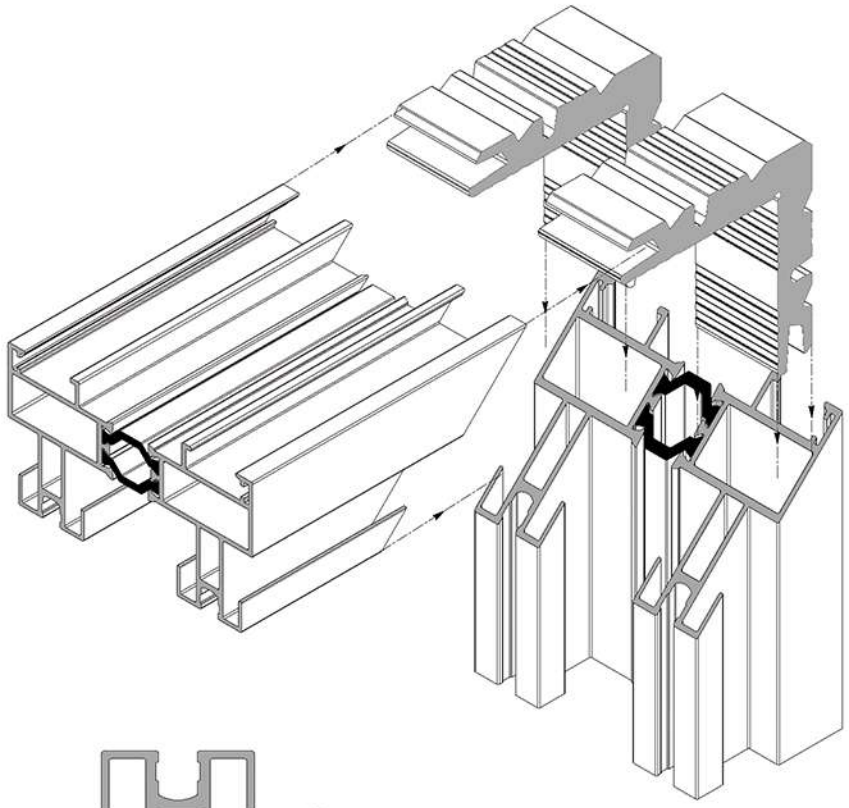
Slide System 77 Series

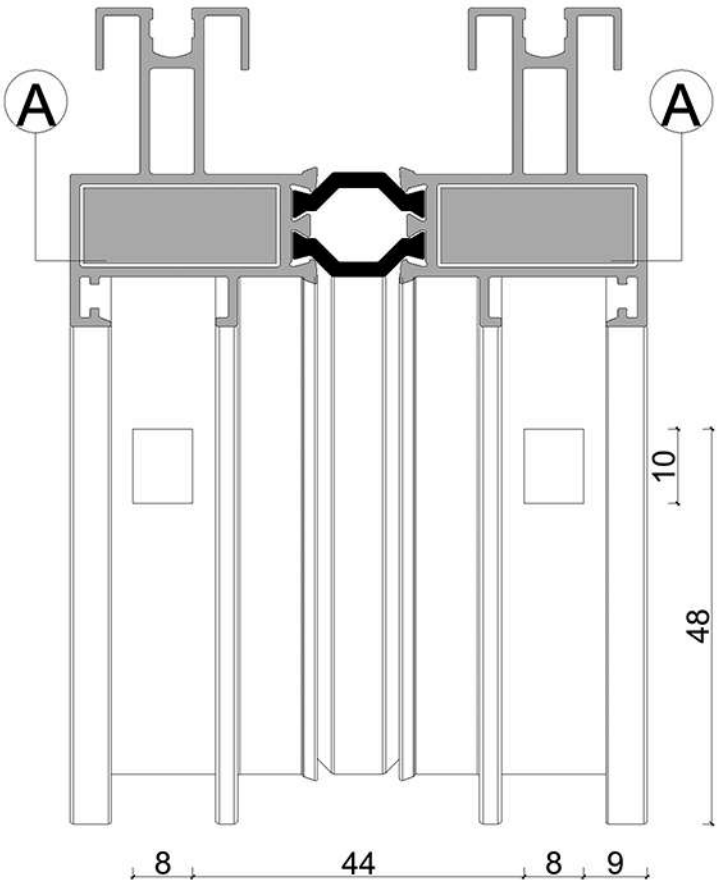
Assembly Drawing

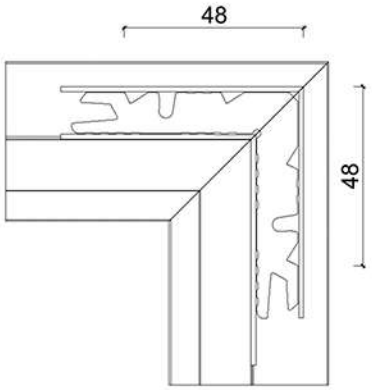
ALN-451



A:PCP-11 / 26 mm

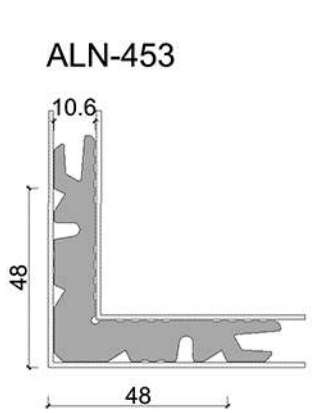


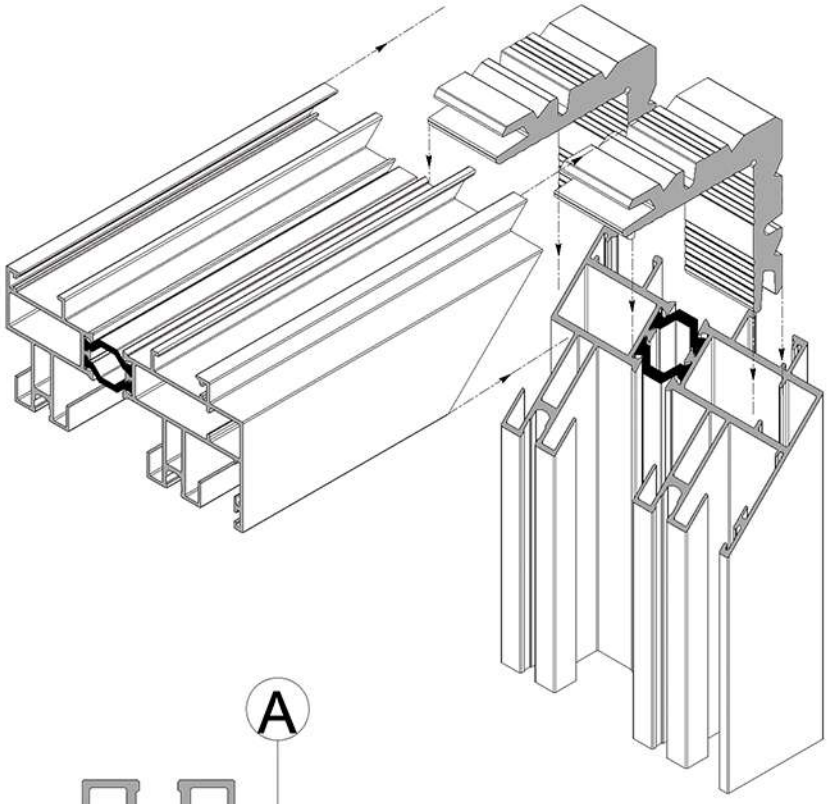


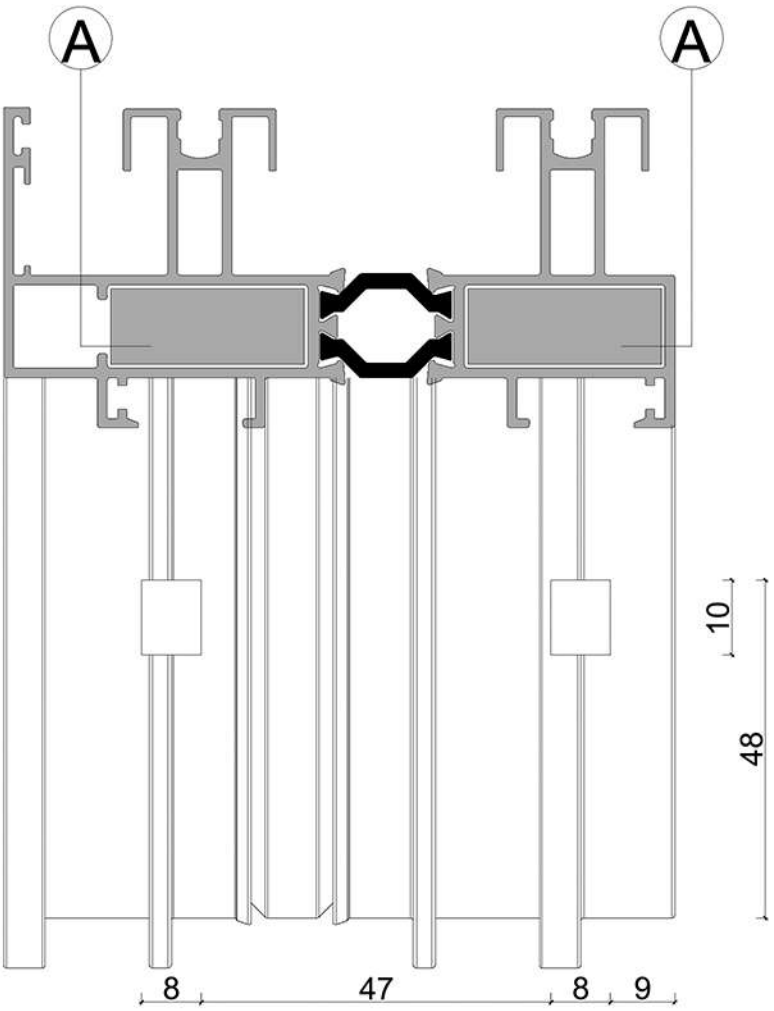


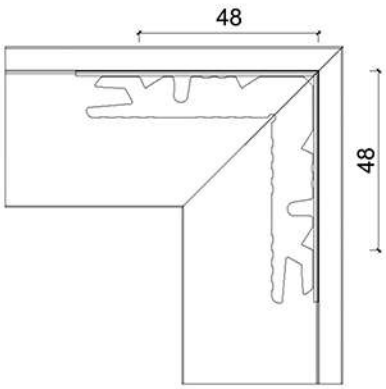
Slide System 77 Series

Assembly Drawing





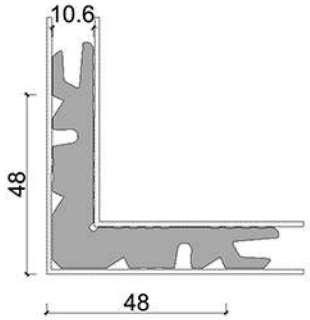




Slide System 77 Series

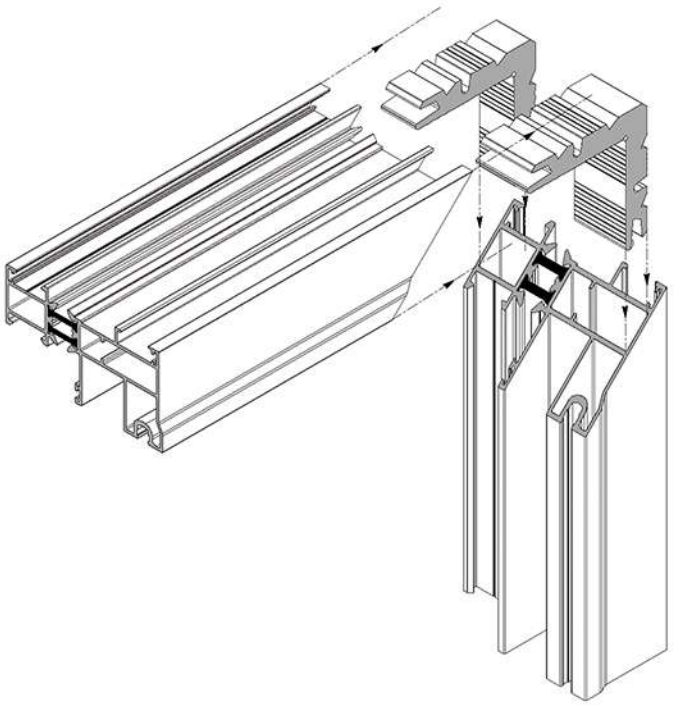
Assembly Drawing

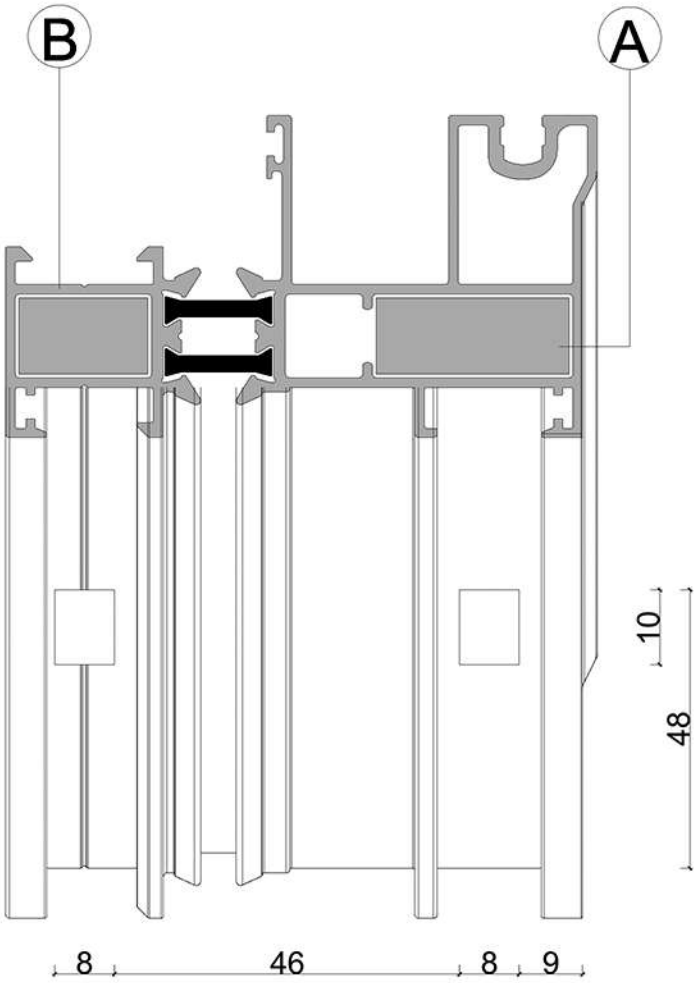
ALN-470

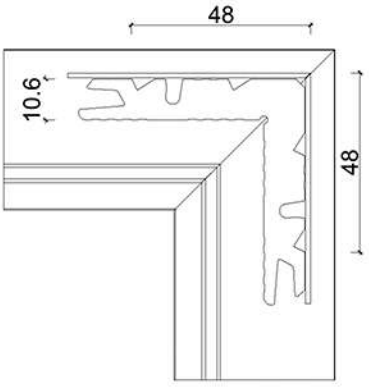


A:PCP-11 / 26 mm

B:PCP-11 / 17 mm



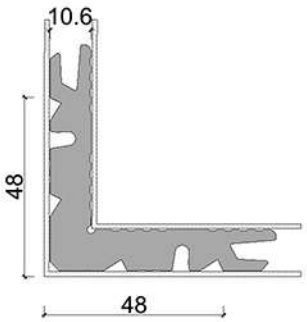




Slide System 77 Series

Assembly Drawing

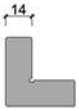
ALN-455



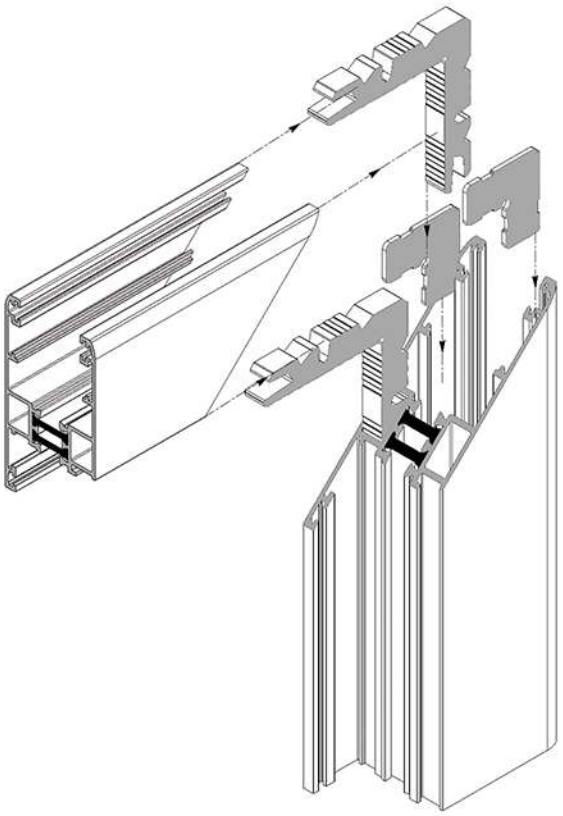
B:PCP-11 / 8 mm

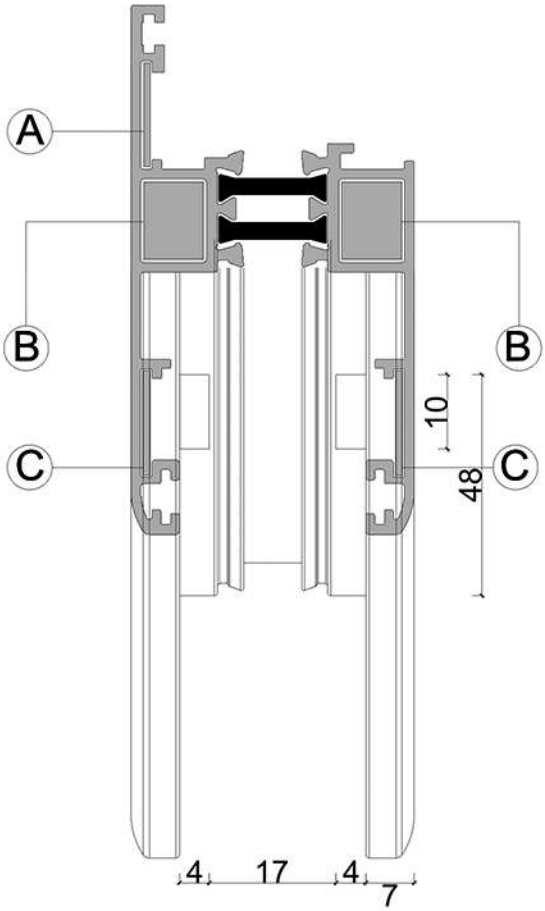


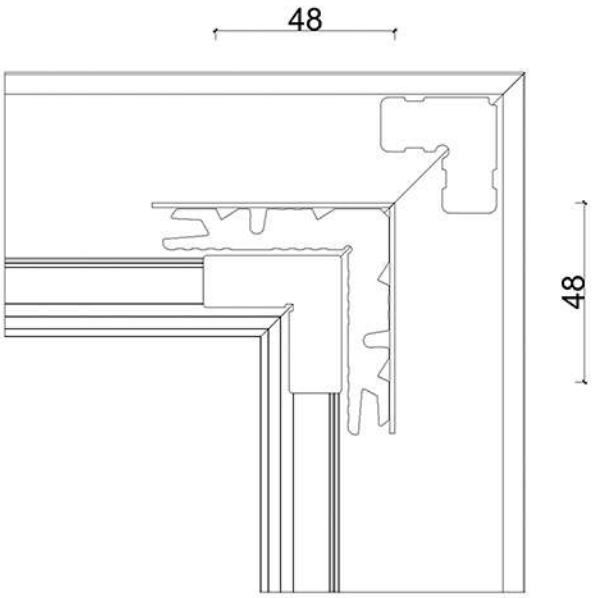
A: MM 77



C:MM 77

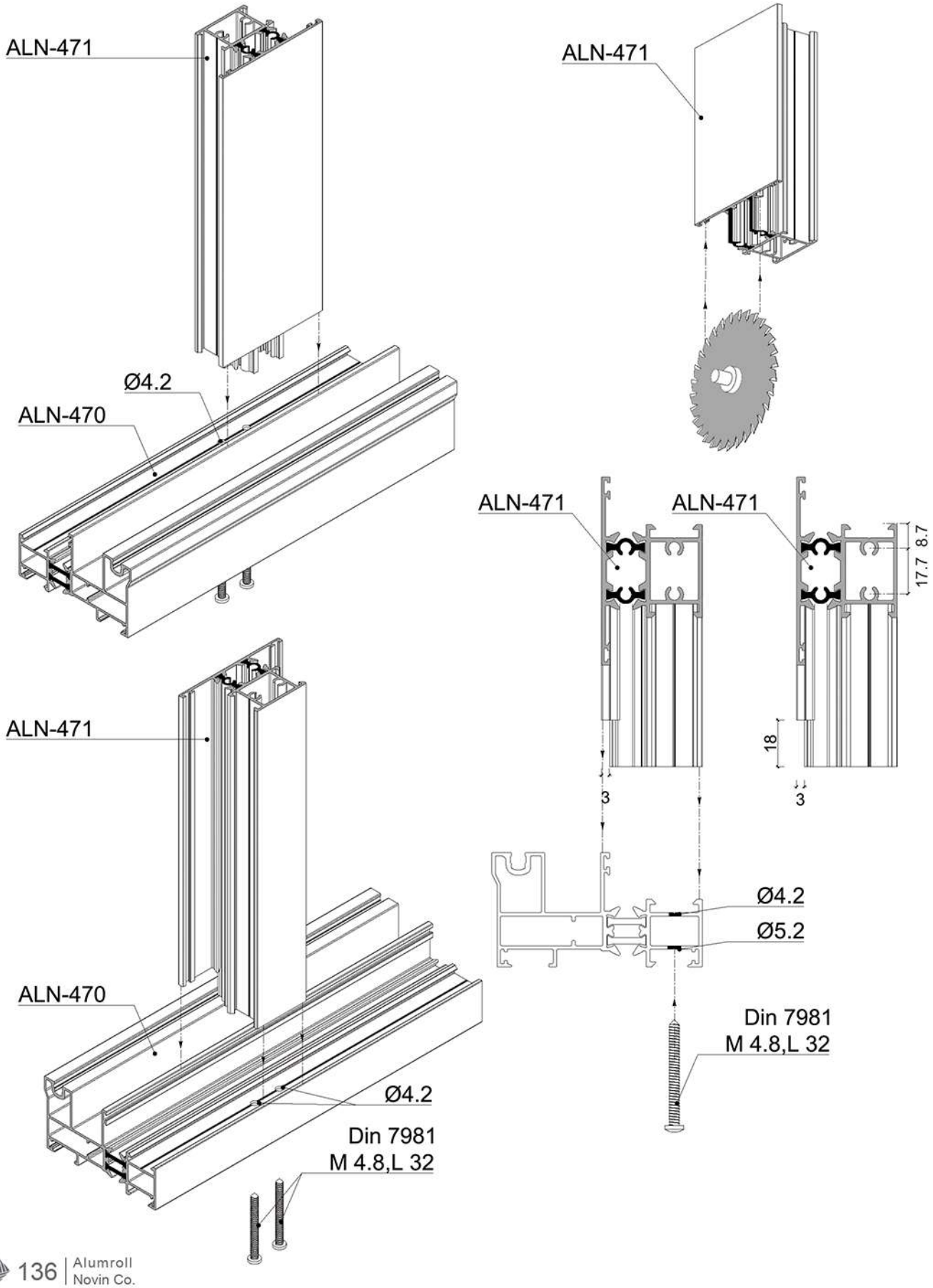






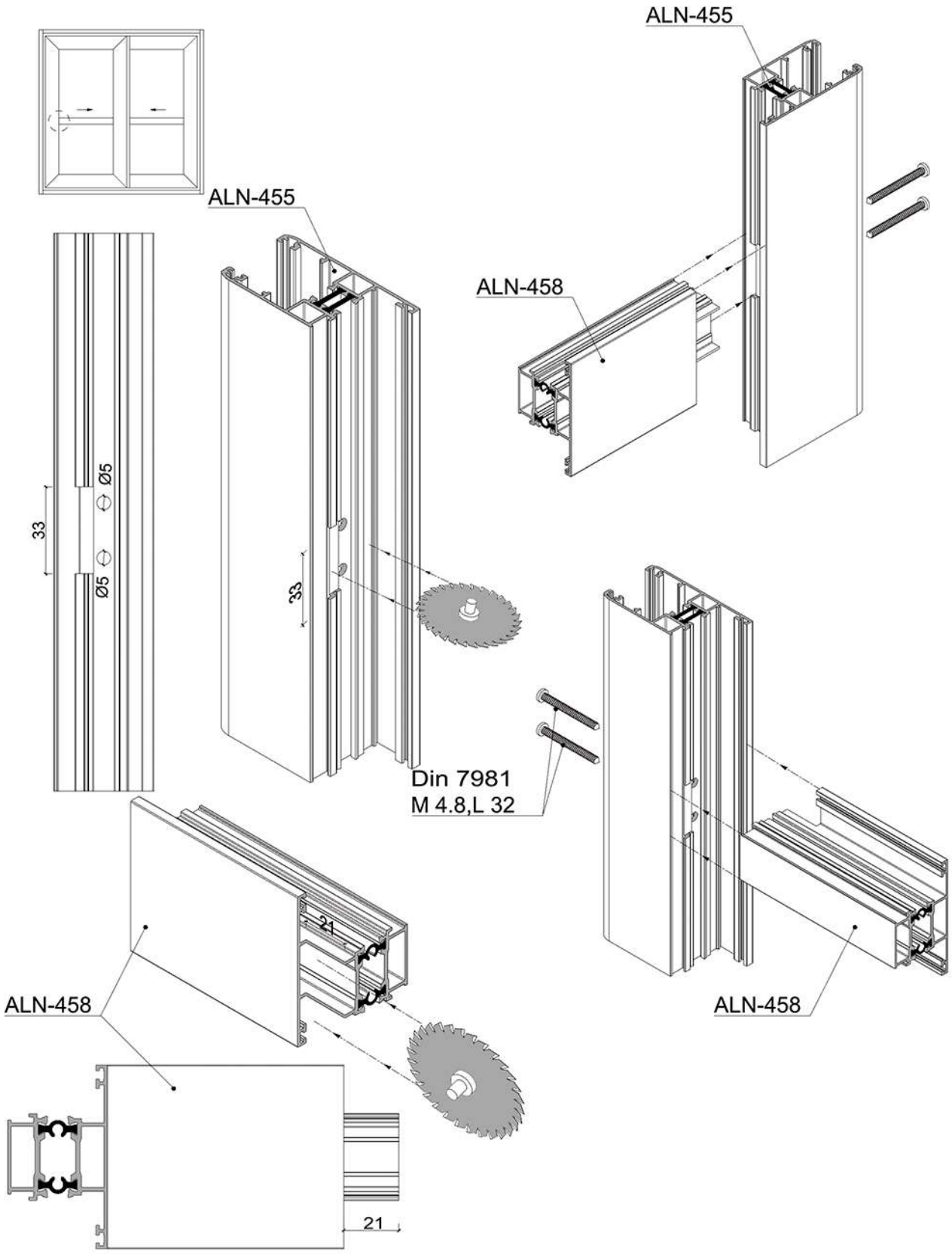
Slide System 77 Series

Assembly Drawing



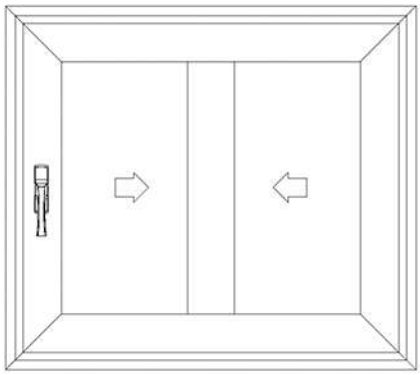
Slide System 77 Series

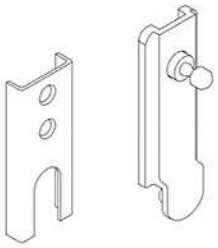
Assembly Drawing

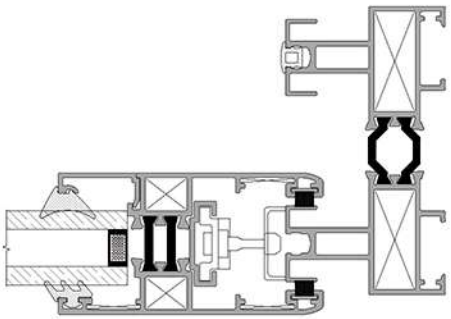


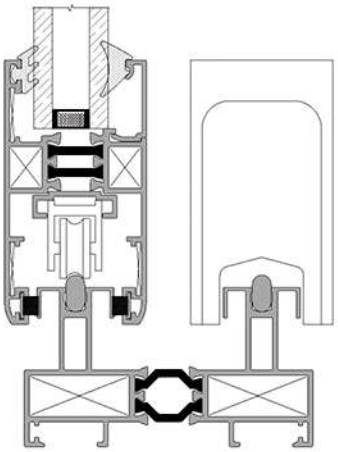
Slide System 77 Series

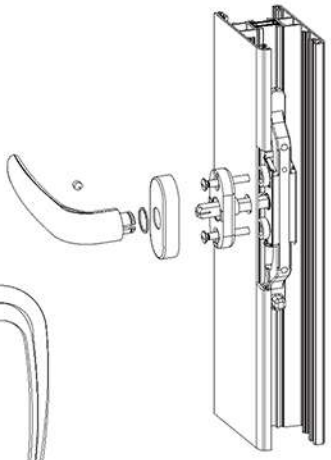
Hardware Installation

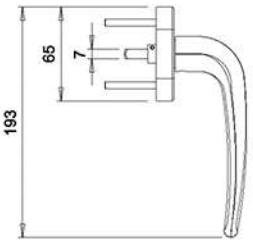


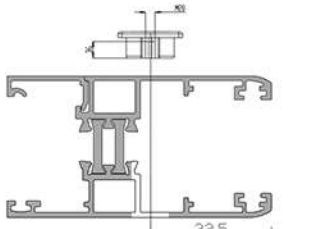


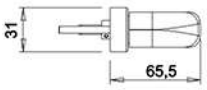


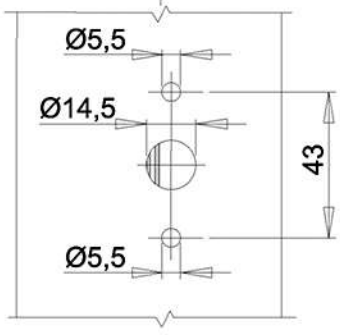


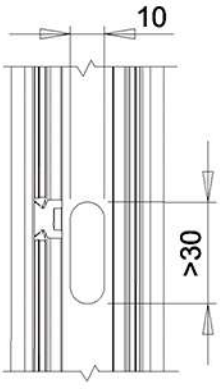






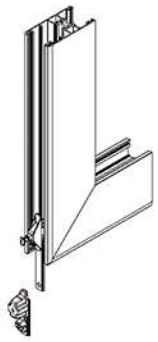


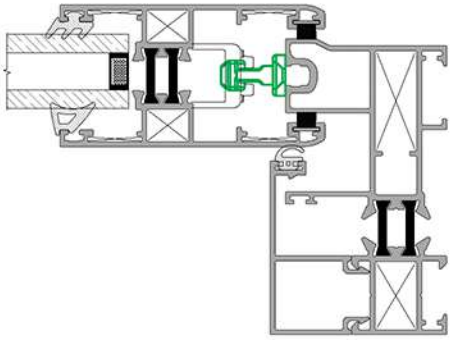


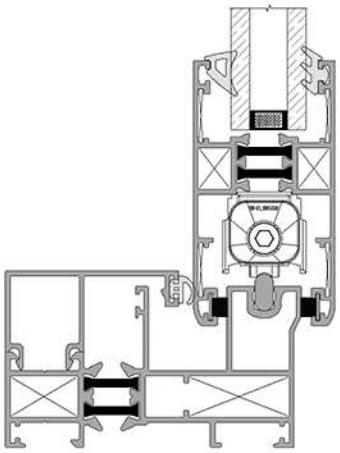


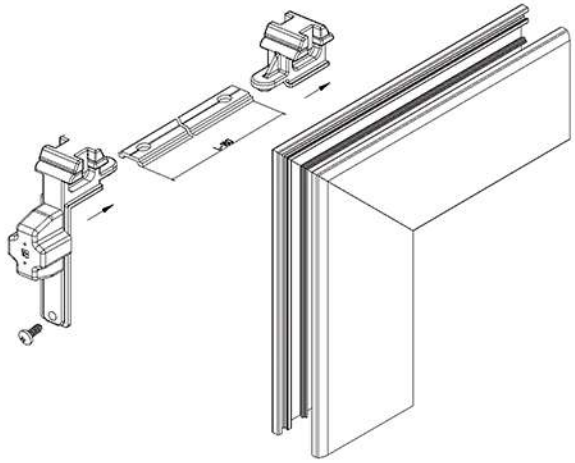
Slide System 77 Series

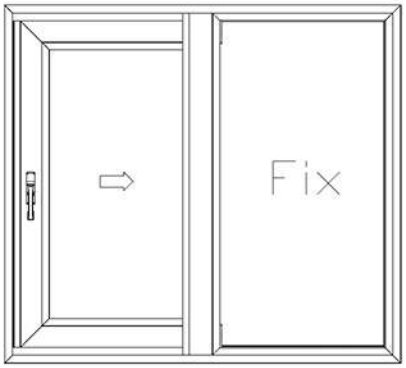
Hardware Installation

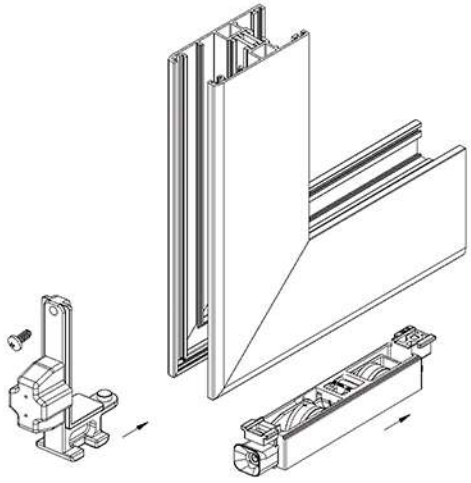


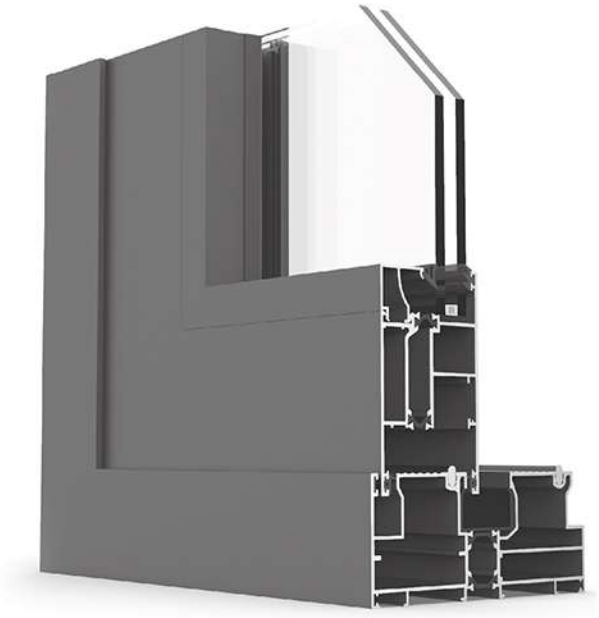






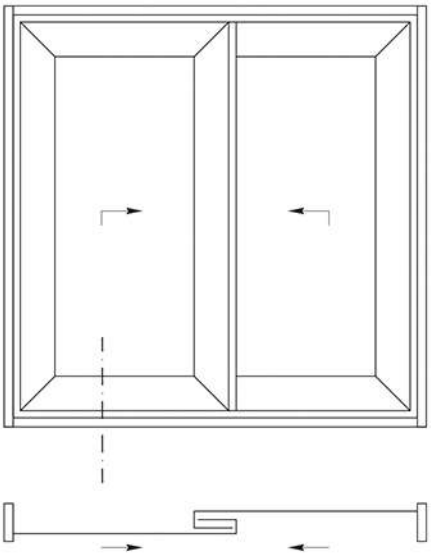


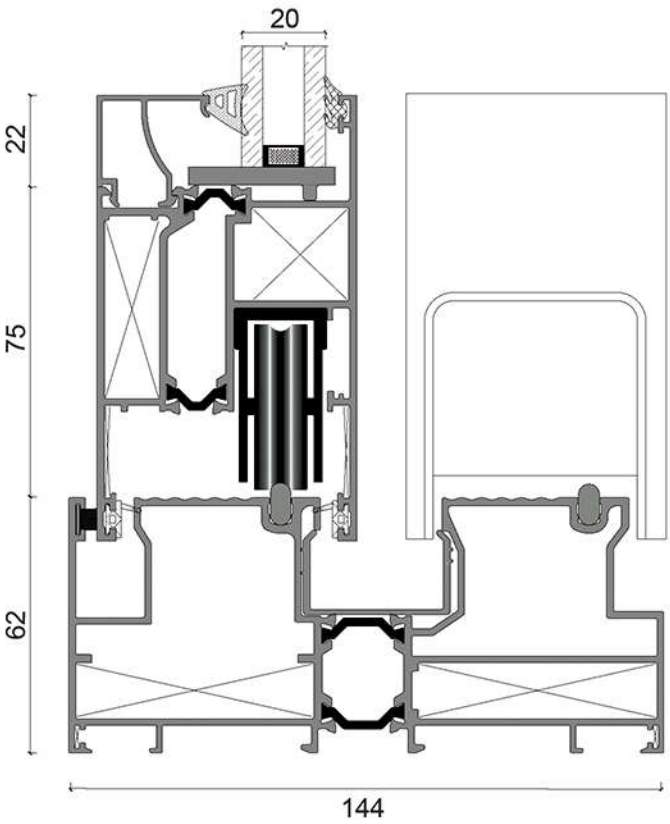




Lift & Slide System 143 Series

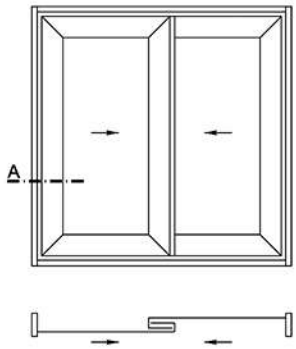
. Profile width:	143 - 218 mm
. Vent width:	62 mm
. Wall thickness:	1.6 - 1.7 mm
. Rubber description:	EPDM DIN 7863
. Glass thickness:	20 - 30 m
. Aluminum alloy extrusion:	EN AW 6063 T5
. Isulation bar :	Polyamide Width 20 mm
. Safety drainage system	
. Various typologies	



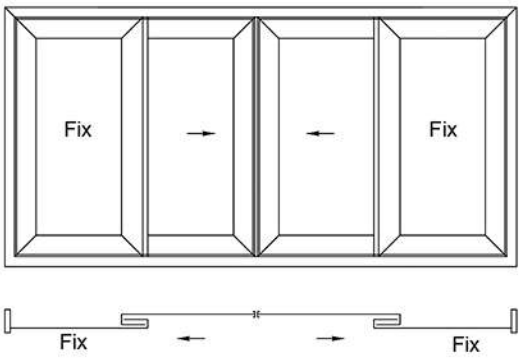


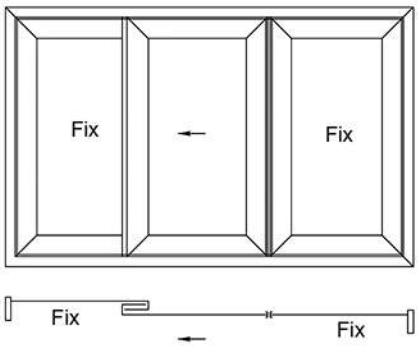
Lift & Slide System 143 Series

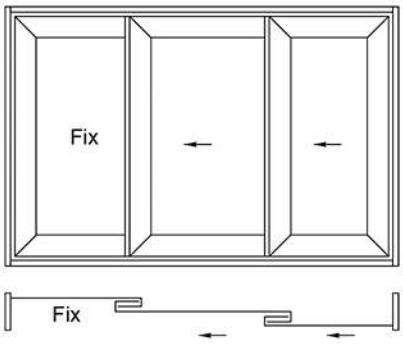
Typologies

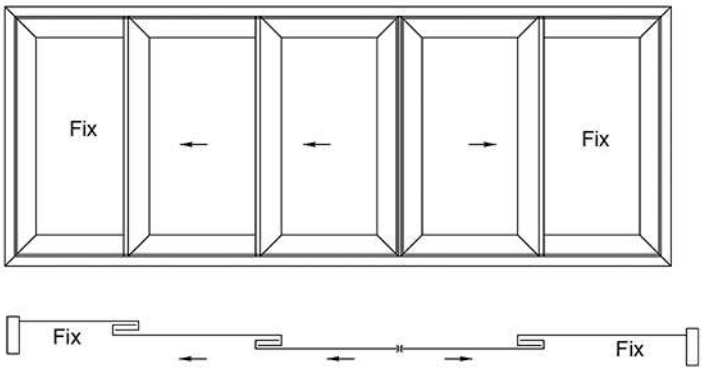






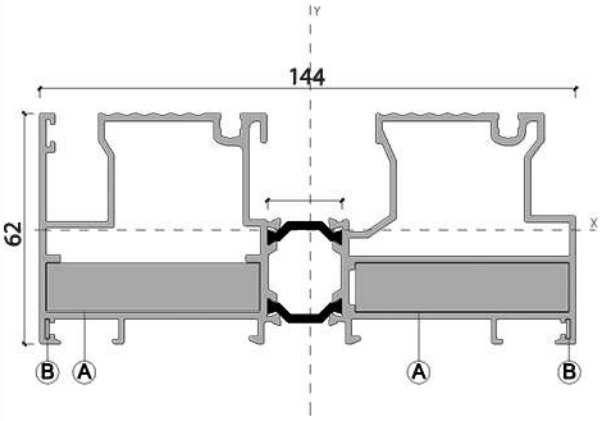


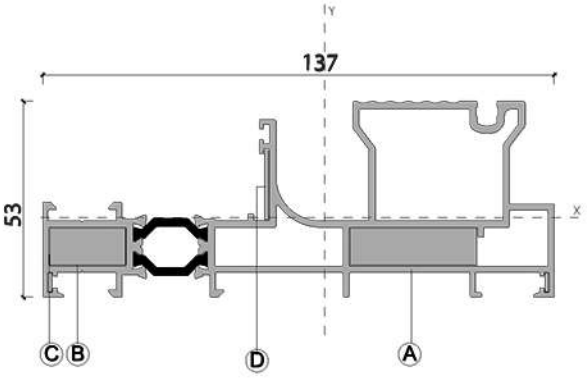




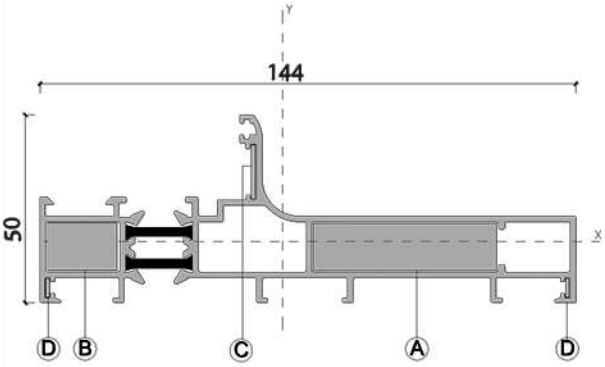
Lift & Slide System 143 Series

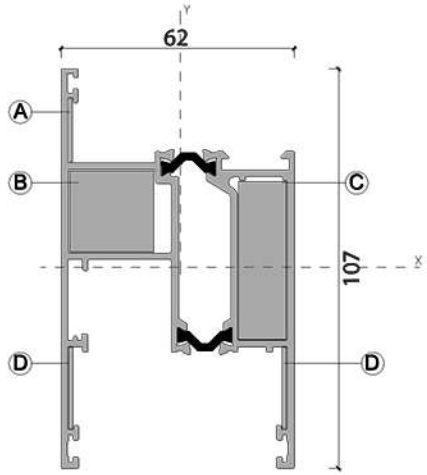
Profile & Accessories Information





I_X: 47.26 cm^4	I_Y: 238.10 cm^4	I_X: 20.64 cm^4	I_Y: 152.73 cm^4
Frame : ALN-480	A: PCP-13 / 56.5 mm	Monorail Frame: ALN-490	A: PCP-10 / 33.5 mm B: PCP-10 / 19.8 mm
Weight: 3220 gr/m	B: MO19(399012)	Weight: 2540 gr/m	C: MO19(399012) D: fuji 2000

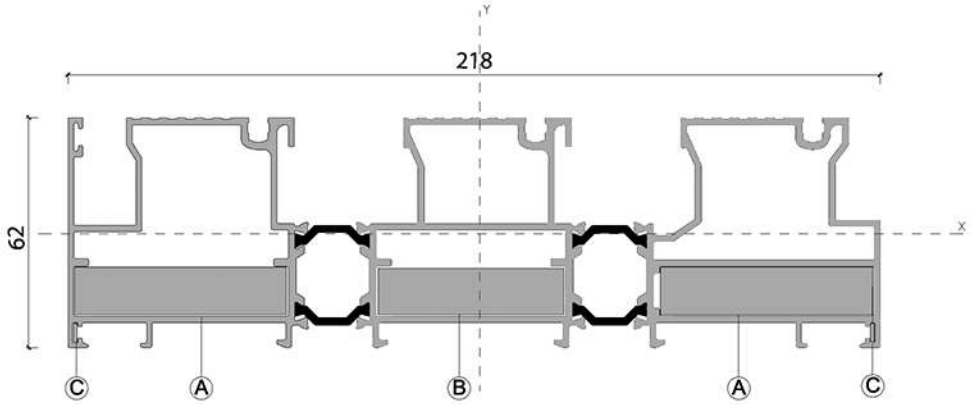




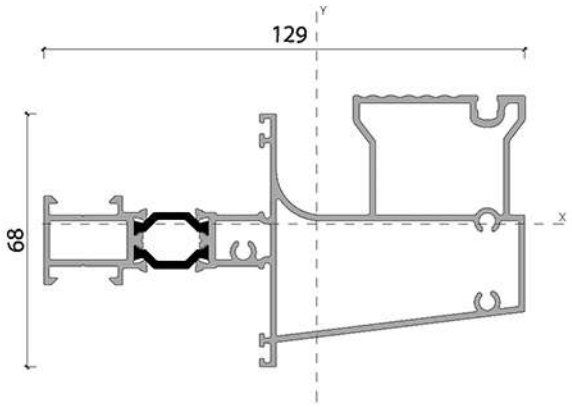
I_X: 8.29 cm^4	I_Y: 139.22 cm^4 A: PCP-13 / 49 mm	I_X: 53.13 cm^4	I_Y: 44.22 cm^4	
Frame : ALN-482	B: PCP-13 / 19 mm C: MM77	Sash : ALN-484	A: Wide plastic-TS 143 370108	B: PCP-22/22mm
Weight: 2051 gr/m	D: MO19(399012)	Weight: 2272 gr/m	C: PCP-42/12mm	D: Narrow plastic-TS 143 370107

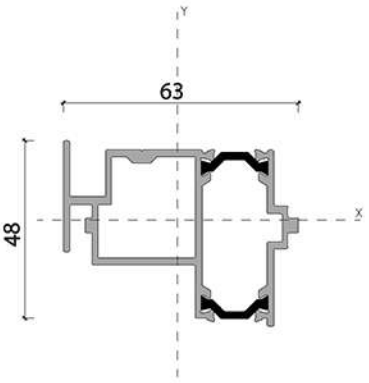
Lift & Slide System 143 Series

Profile & Accessories Information



I_X: 68.88 cm^4	I_Y: 757.90 cm^4
Triple Rail Frame: ALN-481	A: PCP-13 / 56 mm
	B: PCP-13 / 49 mm
Weight: 4824 gr/m	C: MO19(399012)

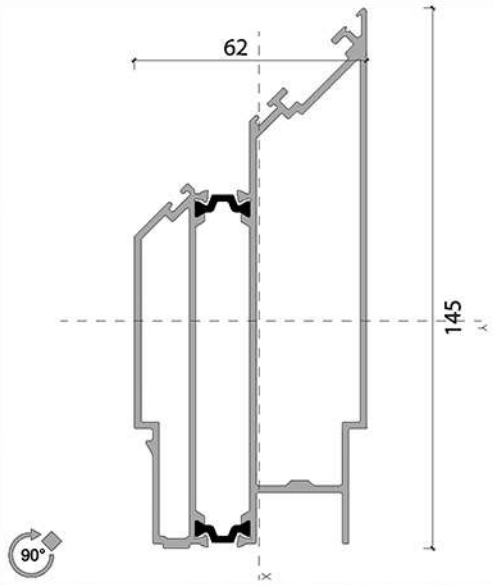


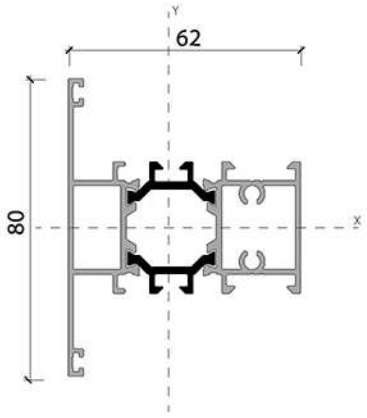


I_X: 32.16 cm^4	I_Y: 138.4 cm^4	I_X: 8.31 cm^4	I_Y: 18.56 cm^4
Transom : ALN-491	-	Profile : ALN-488	-
Weight: 2591 gr/m	-	Weight: 1387 gr/m	-

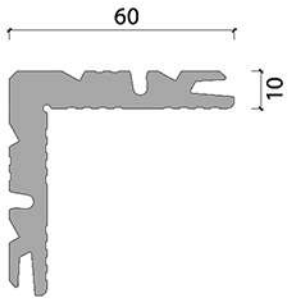
Lift & Slide System 143 Series

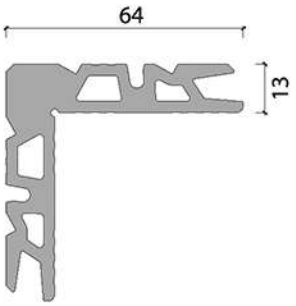
Profile & Accessories Information





I_X: 51.01 cm⁴	I_Y: 186.49 cm⁴	I_X: 11.57 cm⁴	I_Y: 22.89 cm⁴
Corner profile: ALN-483	-	Transom : ALN-487	-
Weight: 3003 gr/m	-	Weight: 1417 gr/m	-

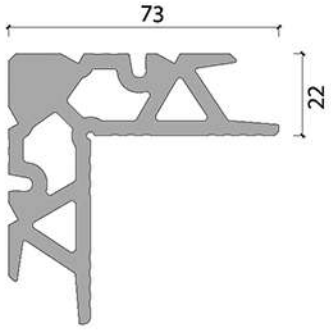




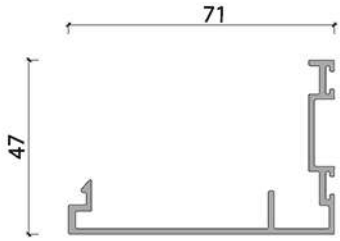
Corner: PCP-10	Weight: 2454 gr/m	Corner: PCP13	Weight: 2673 gr/m

Lift & Slide System 143 Series

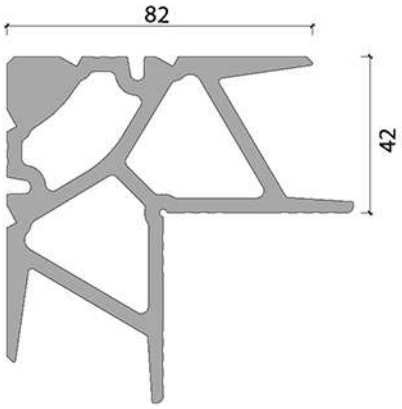
Profile & Accessories Information



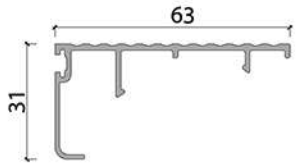
Corner Joint: PCP-22 | Weight : 3718 gr/m



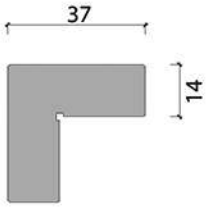
Cap: ALN-485 | Weight: 694 gr/m



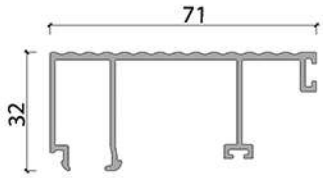
Corner : PCP-42 | Weight : 5133 gr/m



Cap: ALN-486 | Weight: 499 gr/m



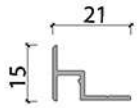
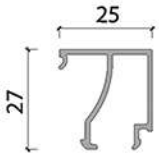
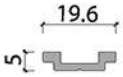
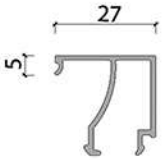
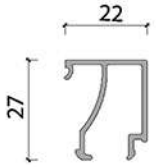
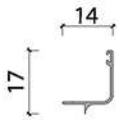
Corner: MM77 | Weight: 2257 gr/m



Cap: ALN-492 | Weight: 759 gr/m

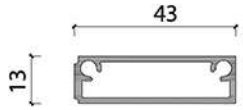
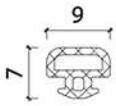
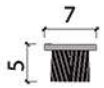
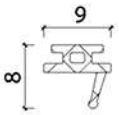
Lift & Slide System 143 Series

Profile & Accessories Information

			
Profile : ALN-228	Weight: 135 gr/m	Glazing beads: ALN-421	Weight: 321 gr/m
			
Profile : ALN-331	Weight: 139 gr/m	Glazing beads: ALN-422	Weight: 321 gr/m
			
Glazing beads: ALN-323	Weight: 302 gr/m	Profile: ALN-489	Weight: 221 gr/m

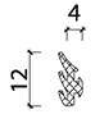
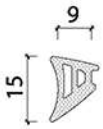
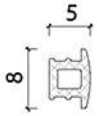
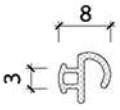
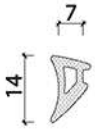
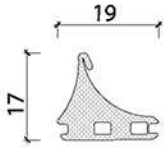
Lift & Slide System 143 Series

Profile & Accessories Information

			
Profile : ALN-493	Weight: 467 gr/m	PB7-3P-70-650	Weight: –
			
Rail : ALN-462	Weight: 119 gr/m	Gasket : MO 60	Weight: 26 gr/m
			
PB7-3P-70-500	Weight: –	Gasket : 51990	Weight: 34 gr/m

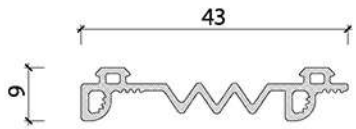
Lift & Slide System 143 Series

Profile & Accessories Information

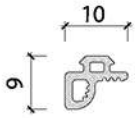
			
Gasket: MO68	Weight : 48 gr/m	Gasket: EP-021	Weight : 80 gr/m
			
Gasket : 51069	Weight: 27 gr/m	Gasket: EP-018	Weight : 27 gr/m
			
Gasket: EP-019	Weight : 61 gr/m	Gasket: TH-75/51056	Weight : 161 gr/m

Lift & Slide System 143 Series

Profile & Accessories Information



Gasket: Corner gasket 60019	Weight : 134 gr/m

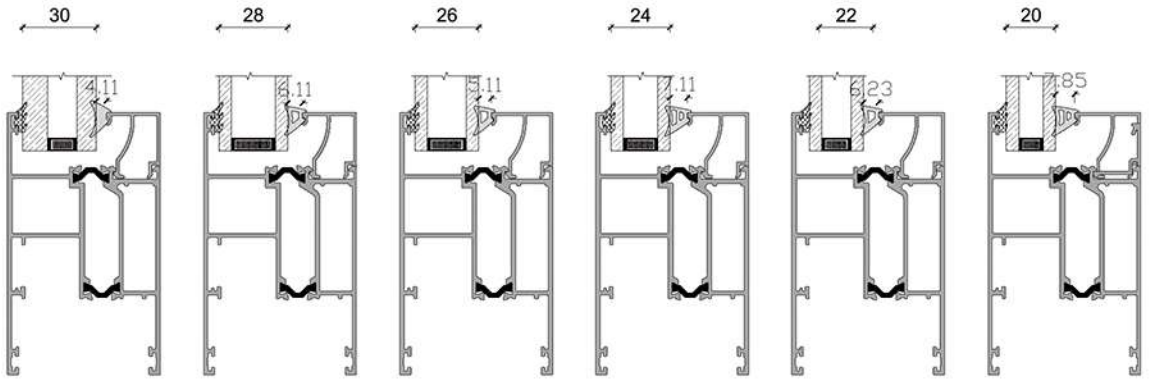


Gasket: Corner gasket-60018	Weight : 44 gr/m

Lift & Slide System 143 Series

Glazing Table

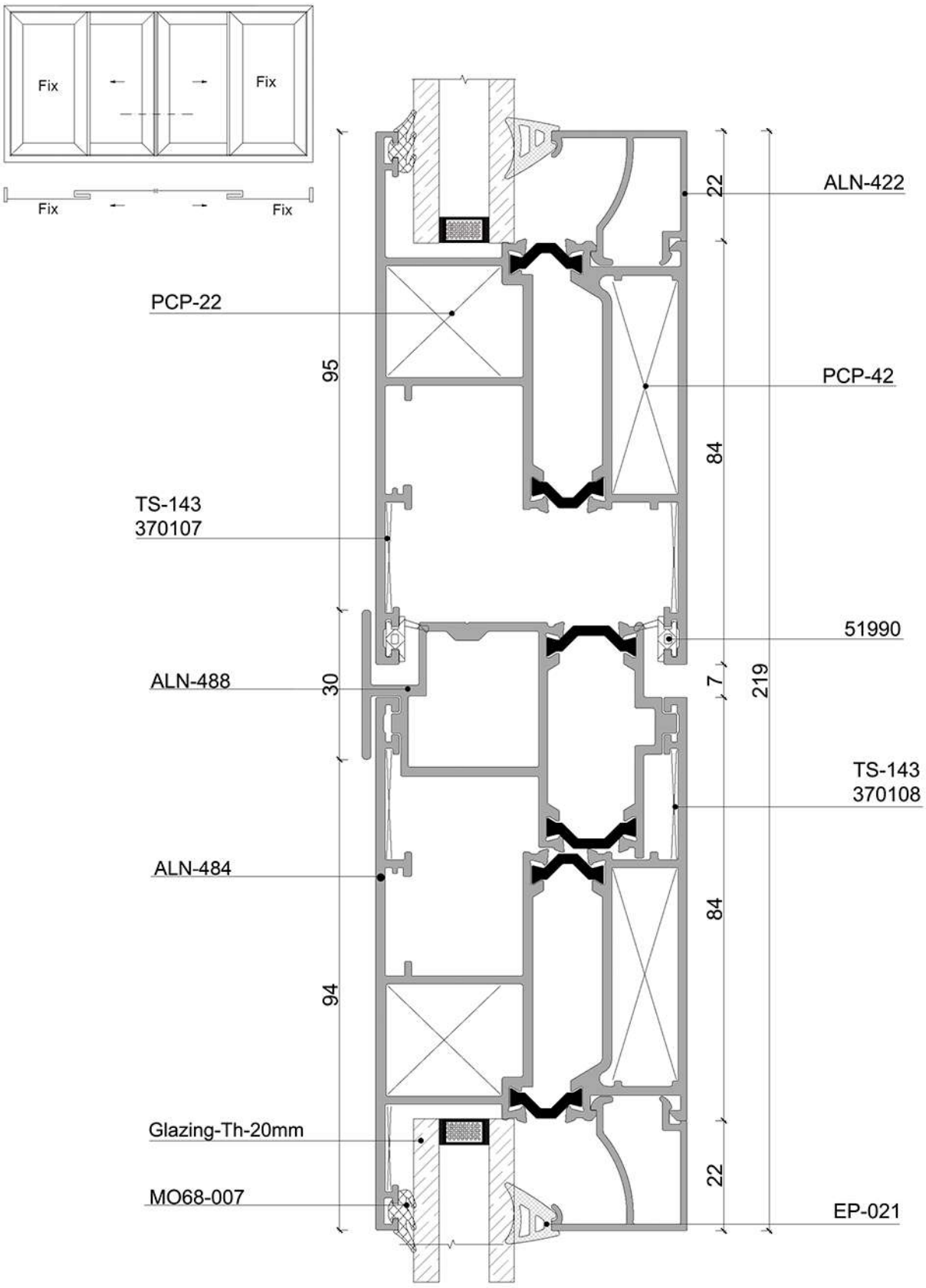
ALN-484



Glazing Thickness	Gasket Inside	Gasket Outside	Glazing Bead
20 mm	7.5 EP-021	MO68	ALN-422
22 mm	5.5 EP-019	MO68	ALN-422
24 mm	7.5 EP-021	MO68	ALN-421
26 mm	5.5 EP-019	MO68	ALN-421
28 mm	5.5 EP-019	MO68	ALN-323
30 mm	4.5 EP-016	MO68	ALN-323

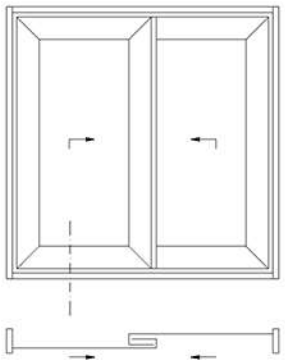
Lift & Slide System 143 Series

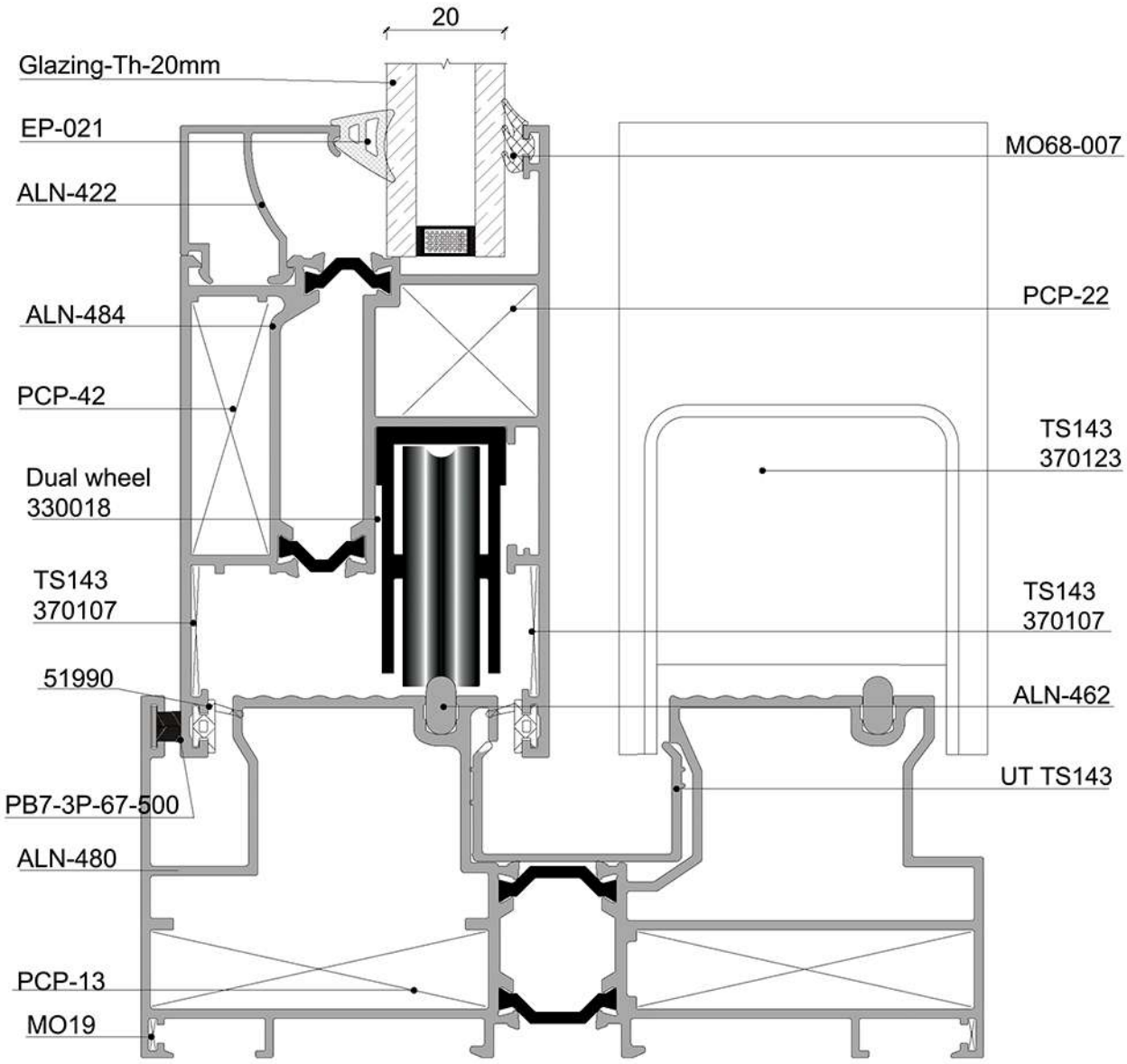
Fabrication Detailes



Lift & Slide System 143 Series

Fabrication Detailes

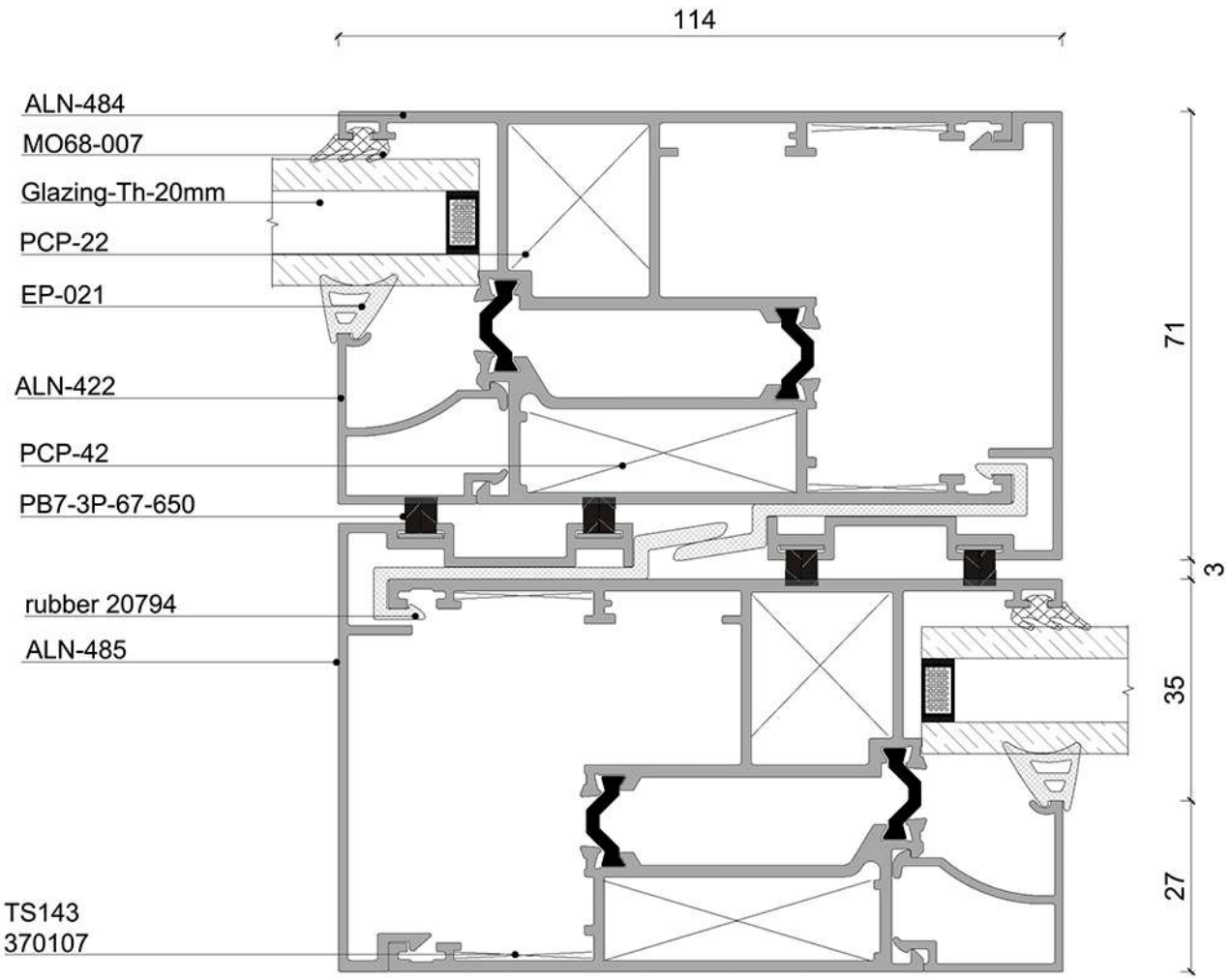




Lift & Slide System 143 Series

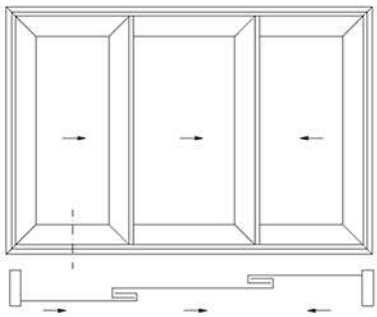
Fabrication Detailes

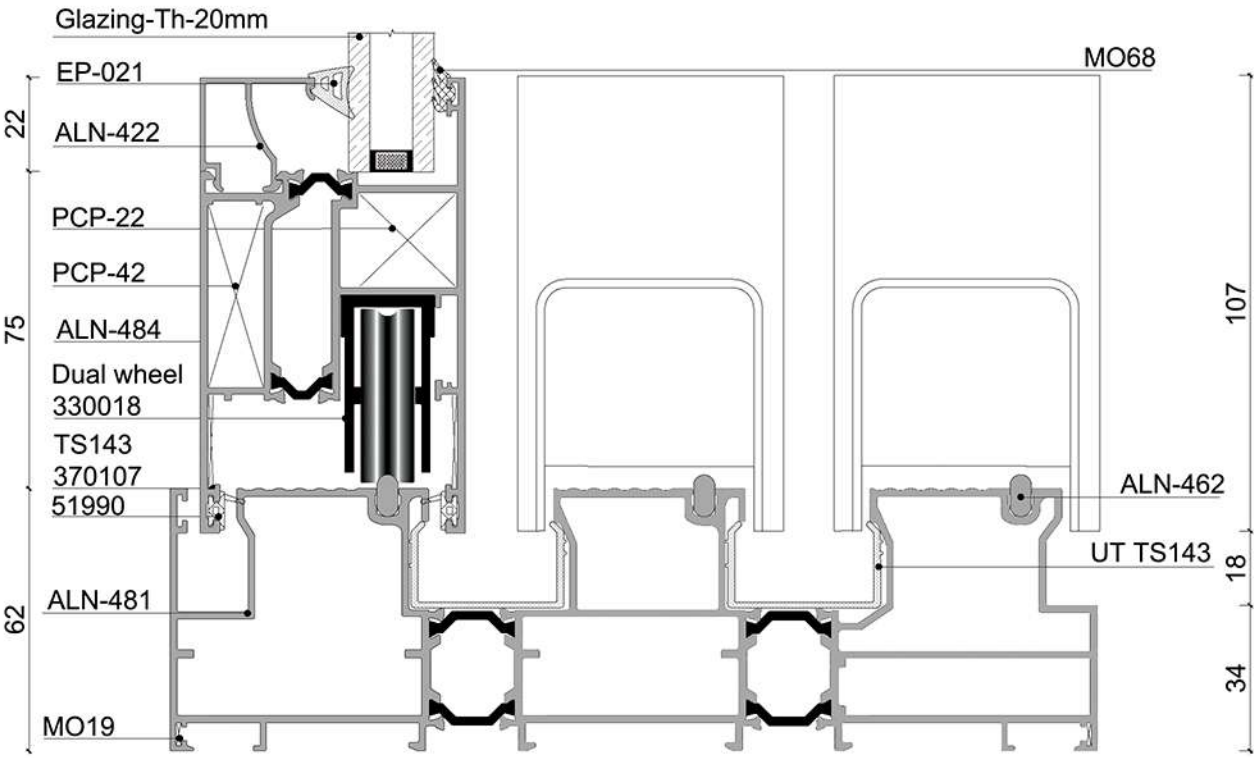




Lift & Slide System 143 Series

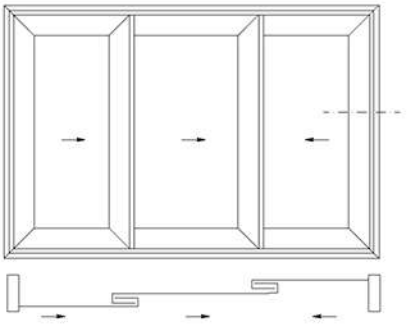
Fabrication Detailes

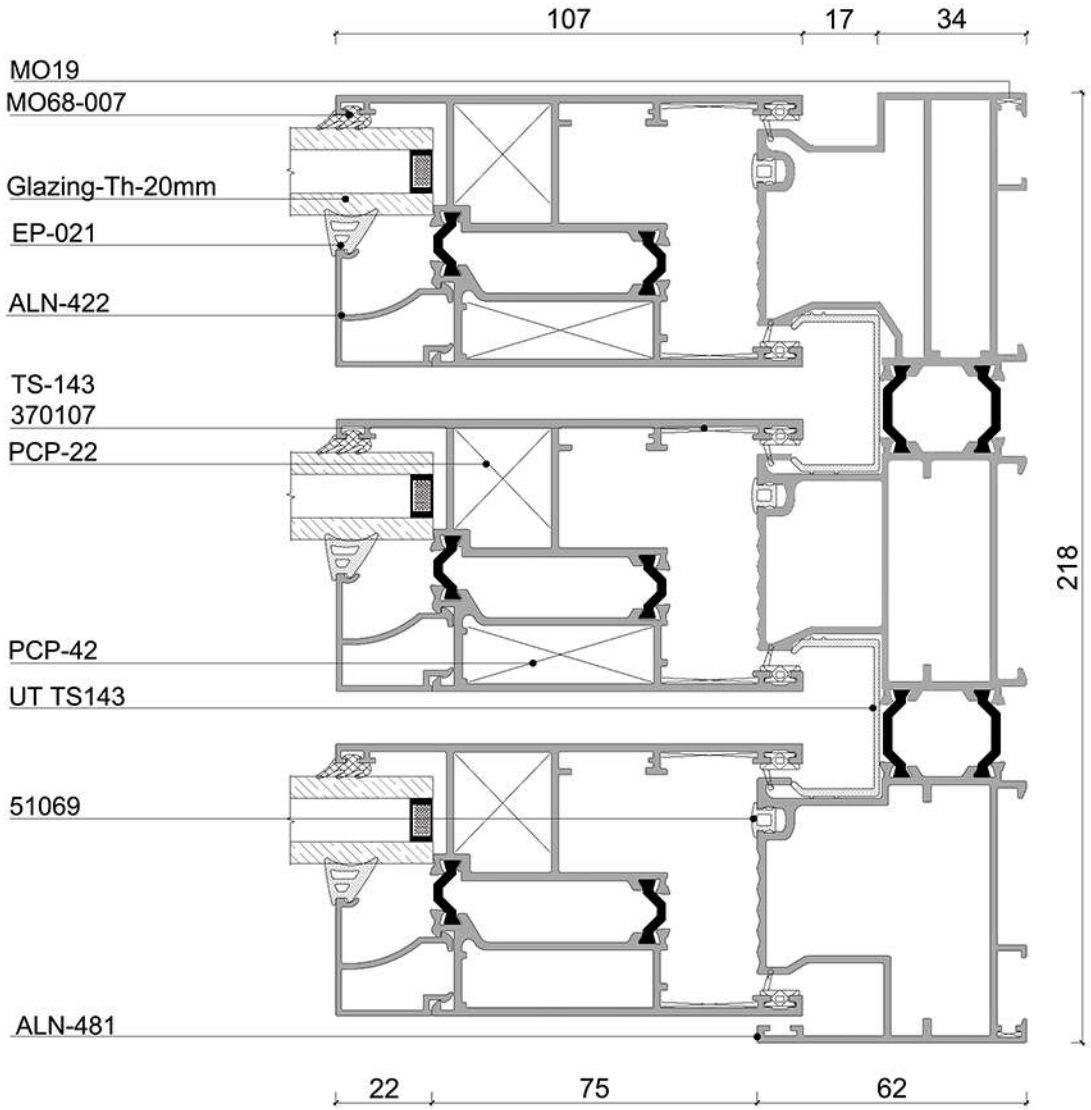




Lift & Slide System 143 Series

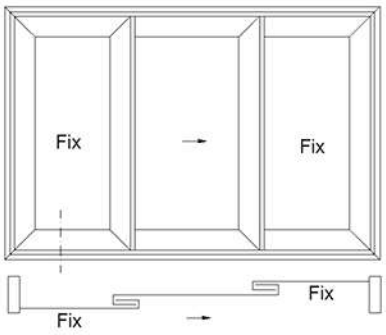
Fabrication Detailes

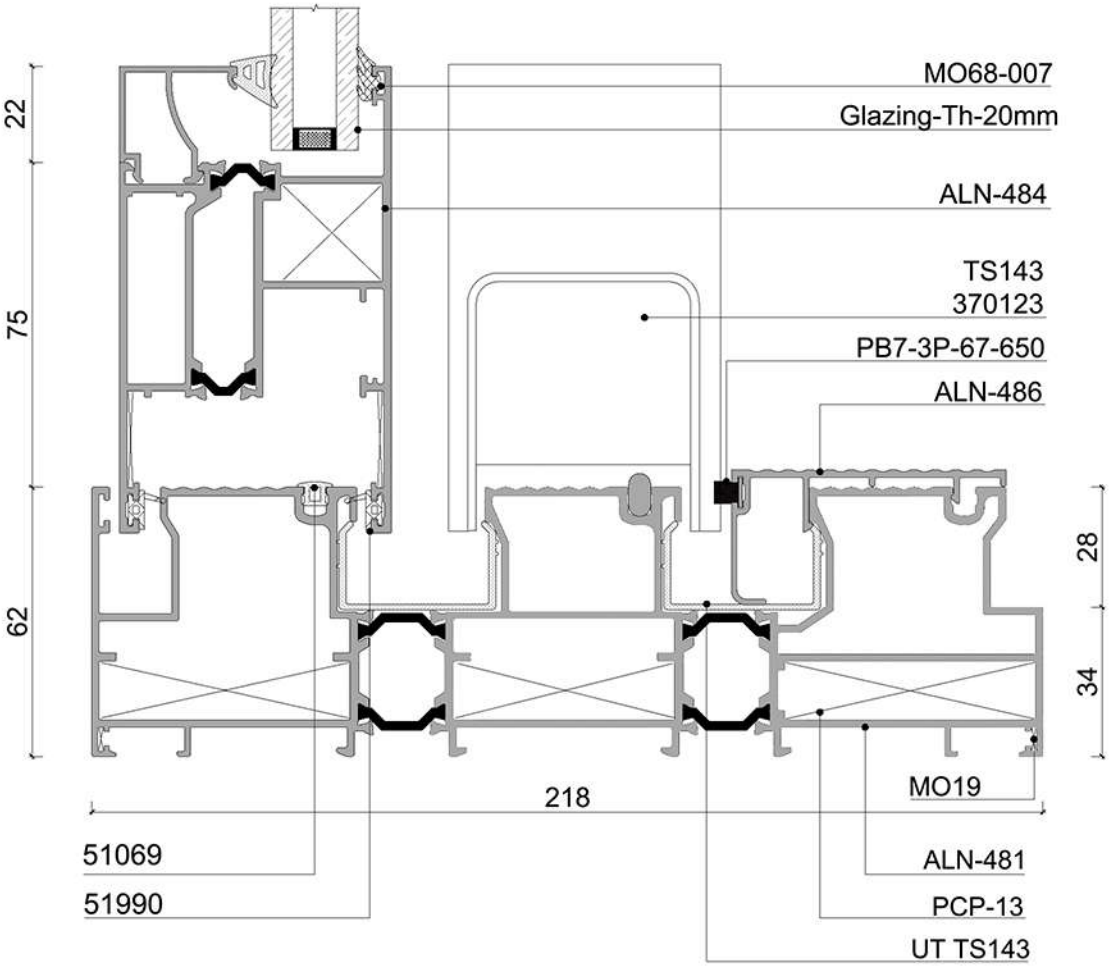




Lift & Slide System 143 Series

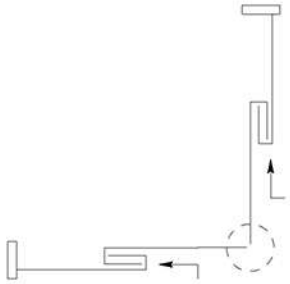
Fabrication Detailes

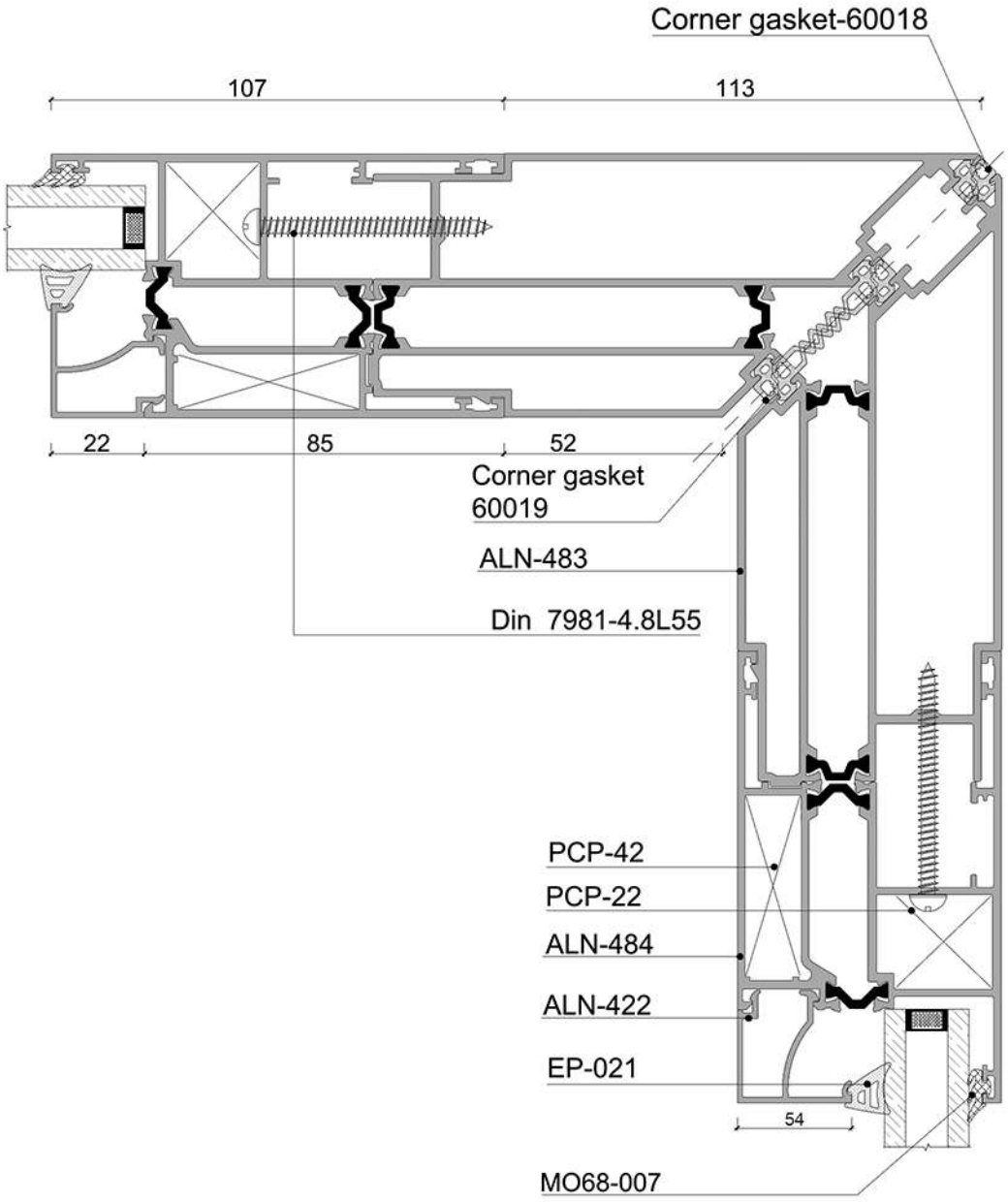




Lift & Slide System 143 Series

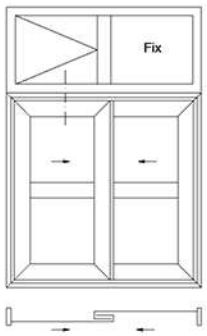
Fabrication Detailes

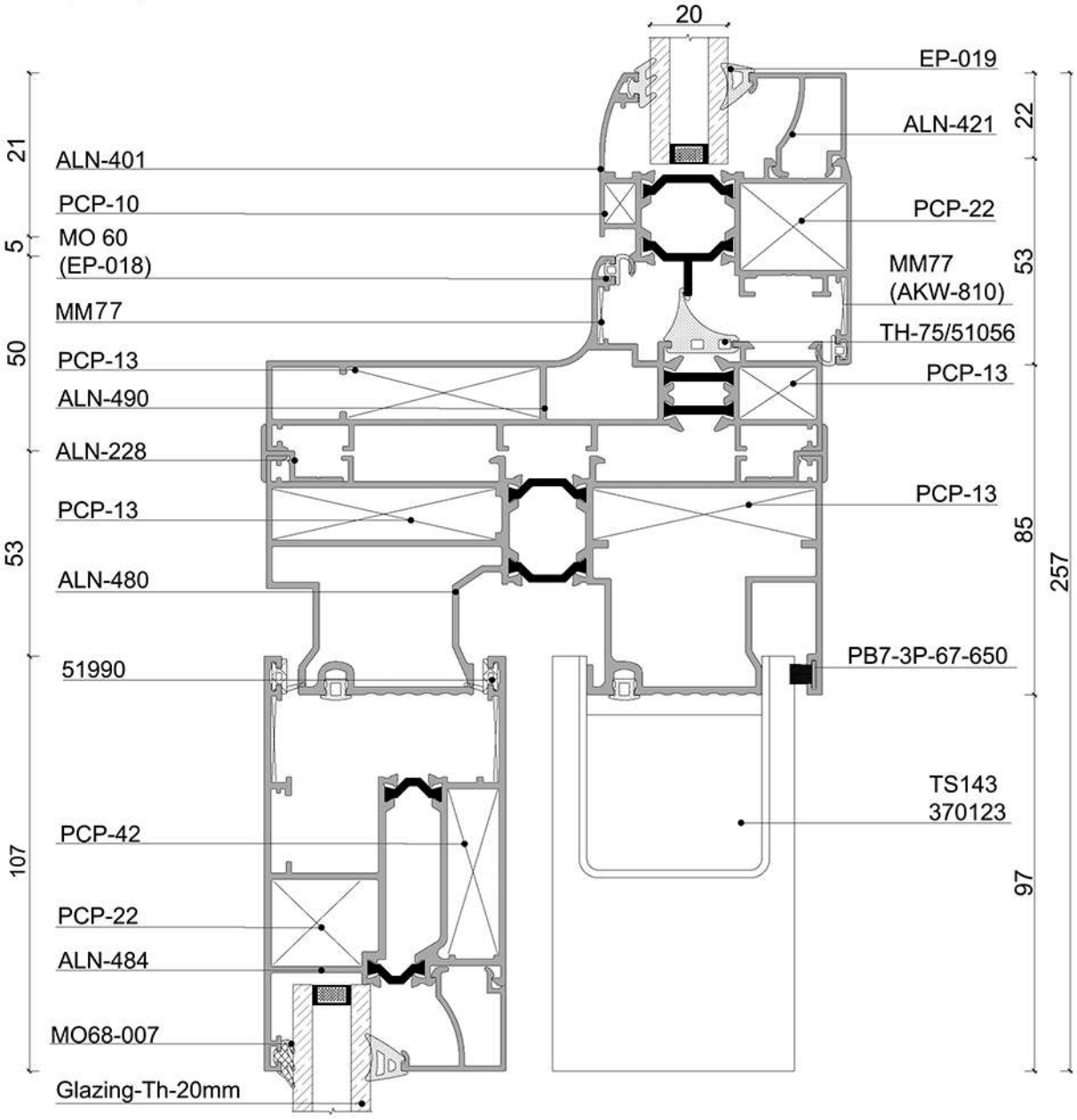




Lift & Slide System 143 Series

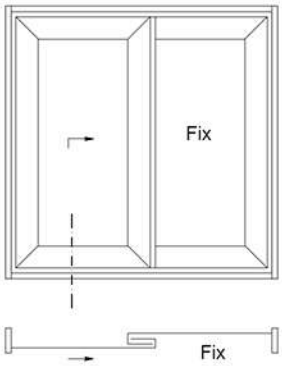
Fabrication Detailes

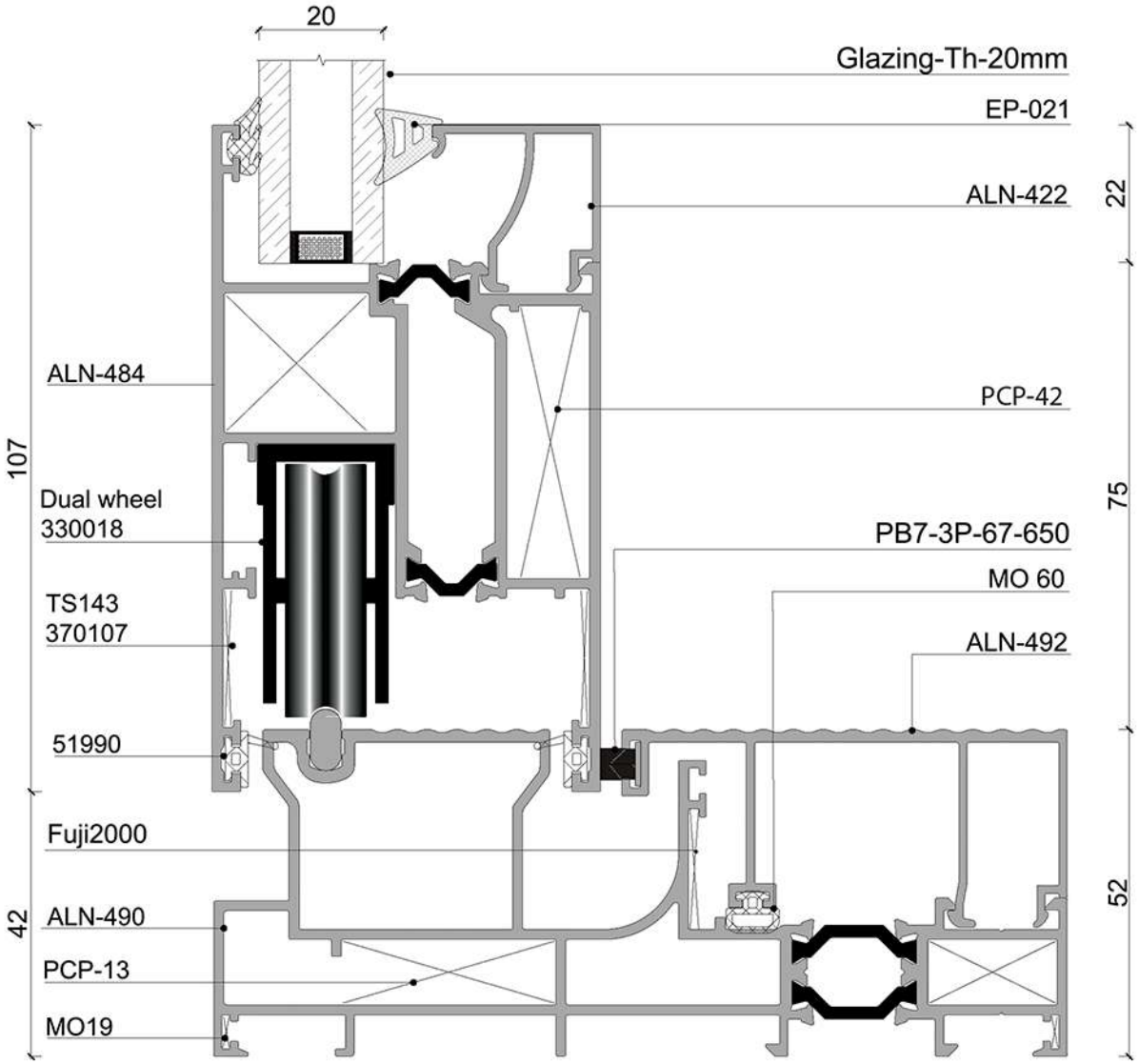




Lift & Slide System 143 Series

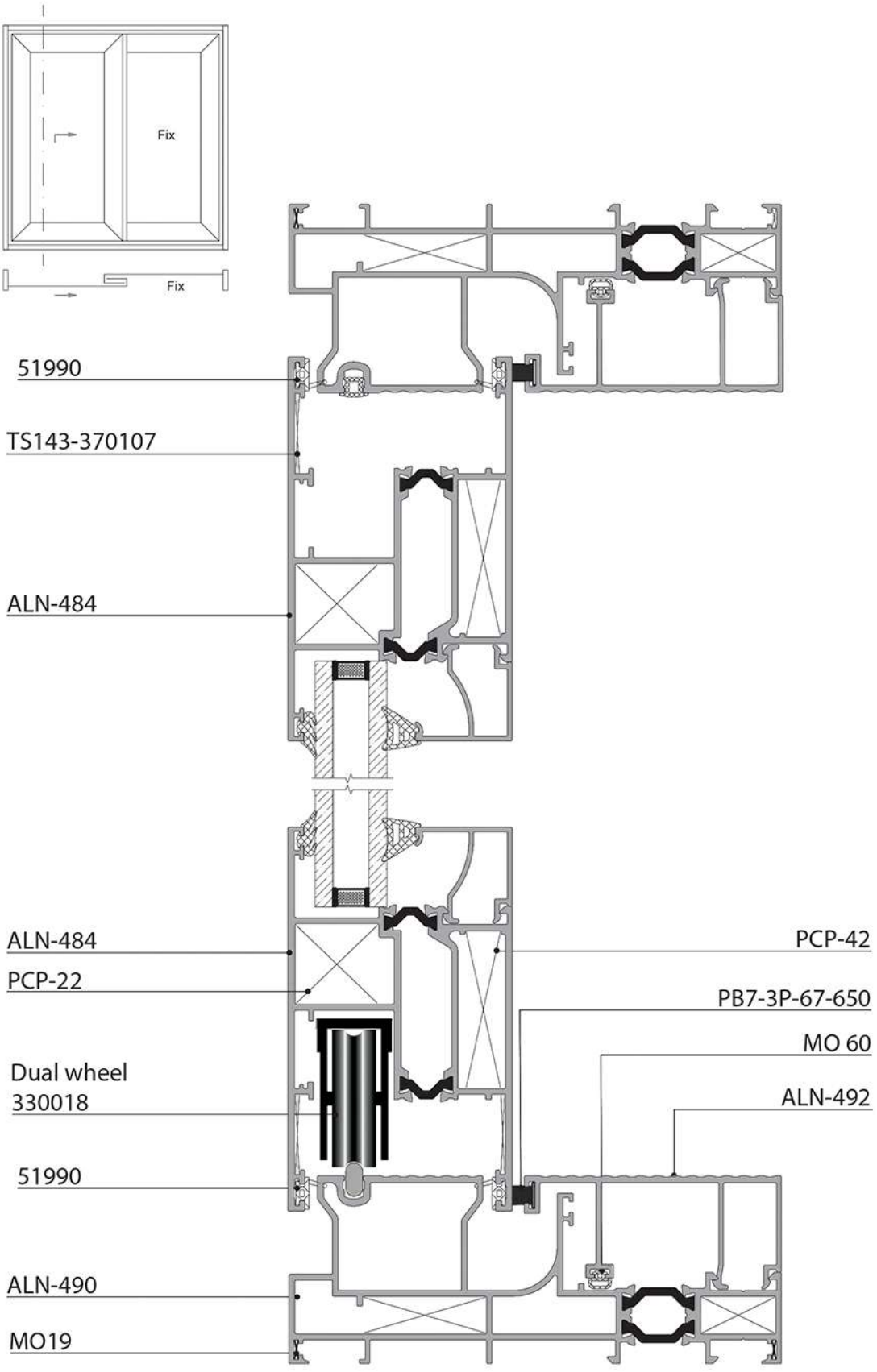
Fabrication Detailes





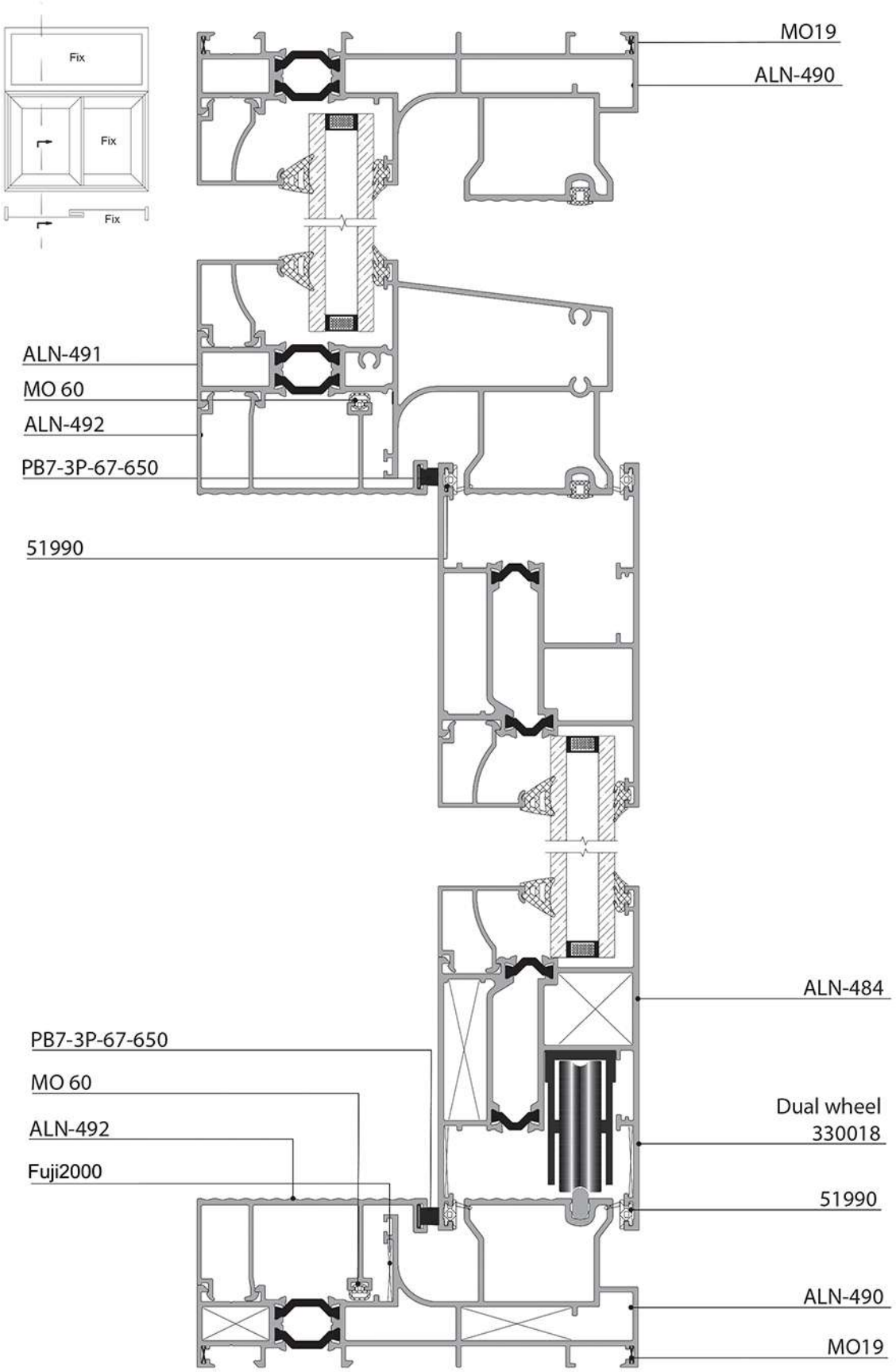
Lift & Slide System 143 Series

Fabrication Detailes



Lift & Slide System 143 Series

Fabrication Detailes



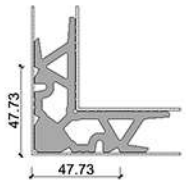
Lift & Slide System 143 Series

Assembly Drawing

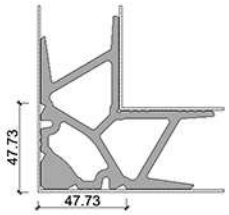
ALN-484



A: Wide plastic-TS 143
370108



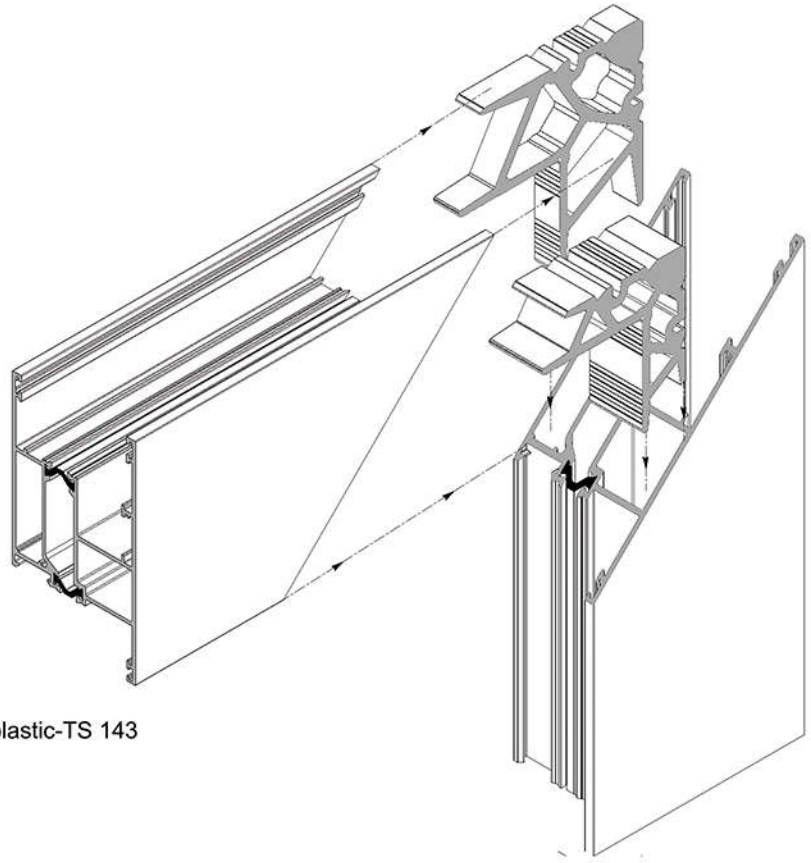
B: PCP-22/22mm

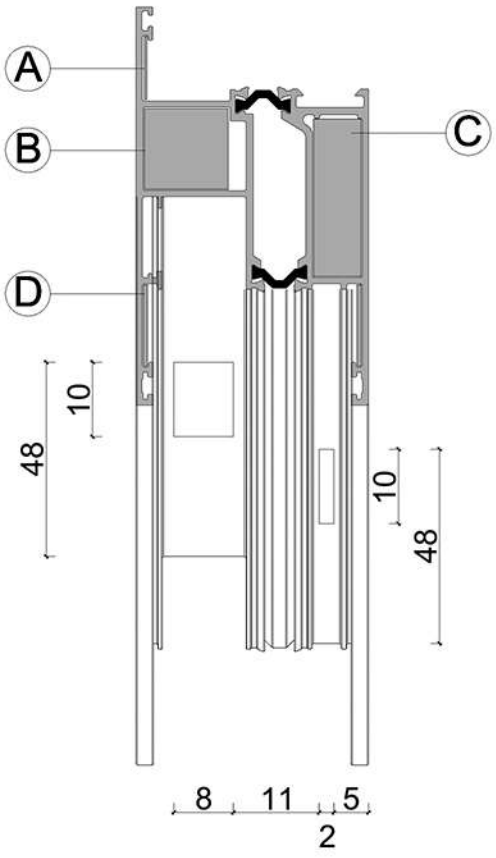


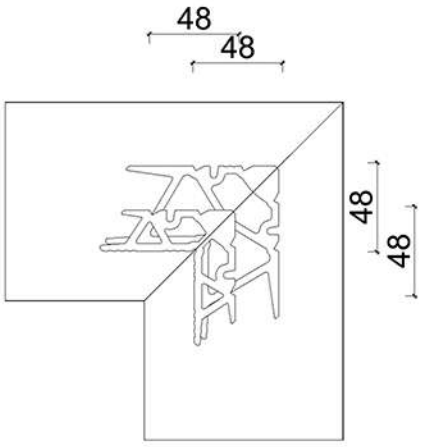
C: PCP-42/12mm



D: Narrow plastic-TS 143
370107



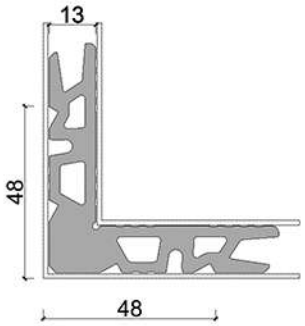




Lift & Slide System 143 Series

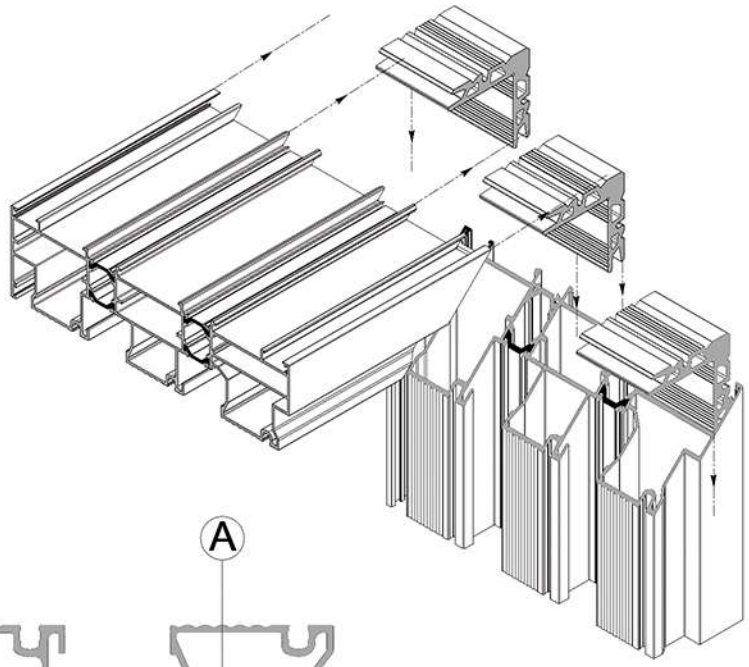
Assembly Drawing

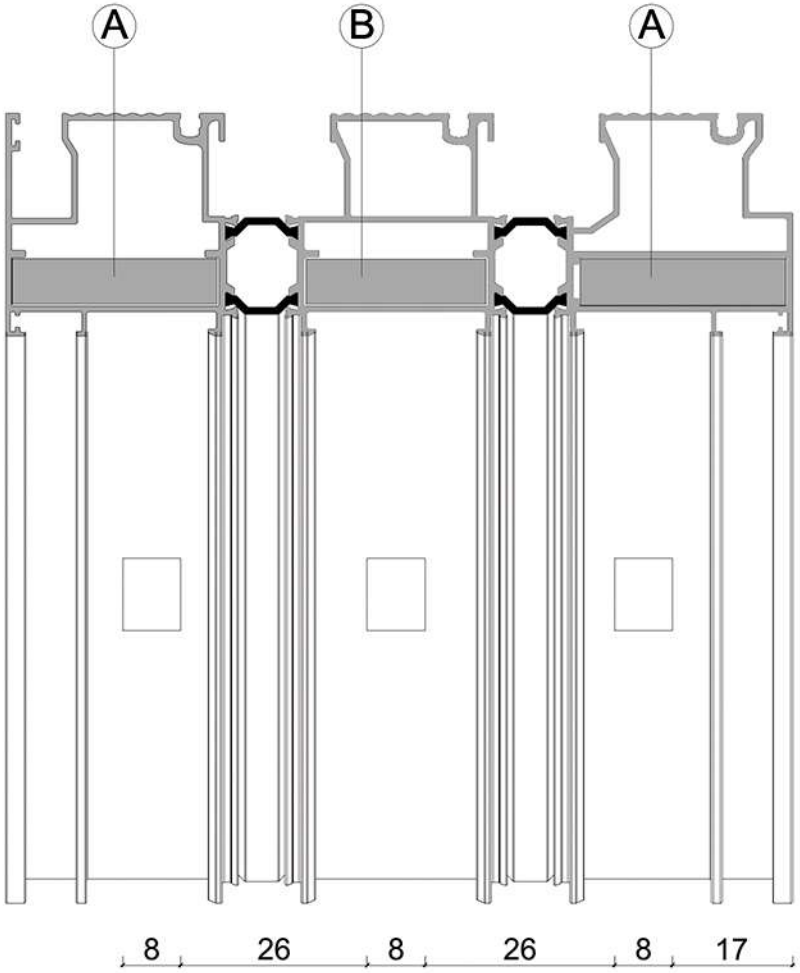
ALN-481

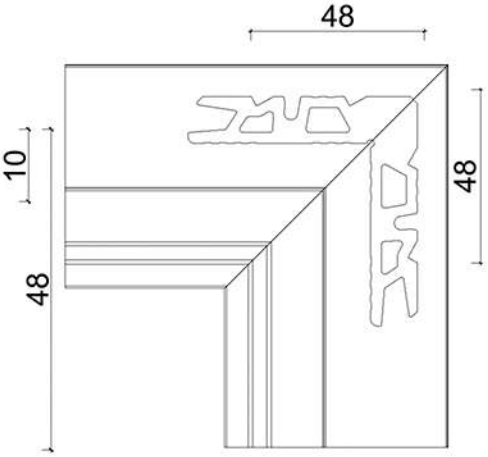


A: PCP-13 / 56 mm

B: PCP-13 / 49 mm

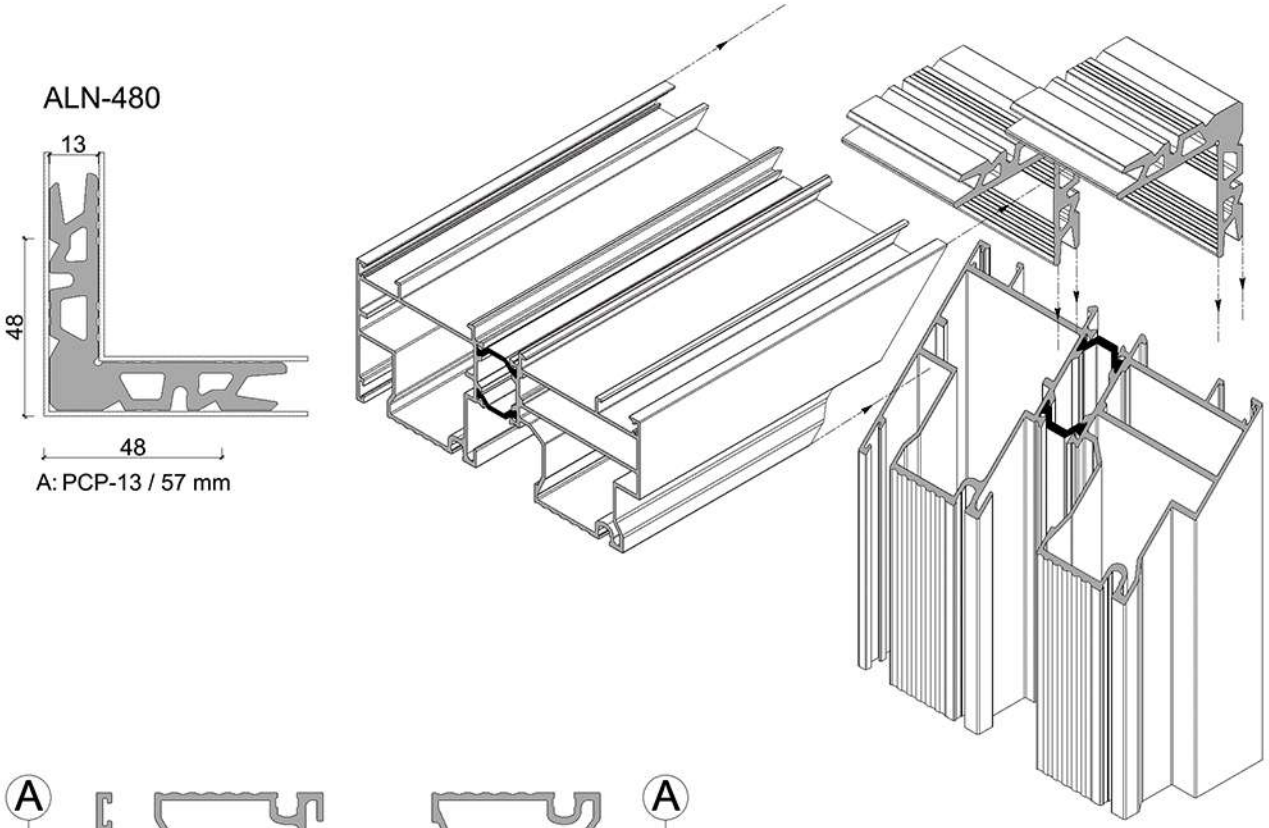


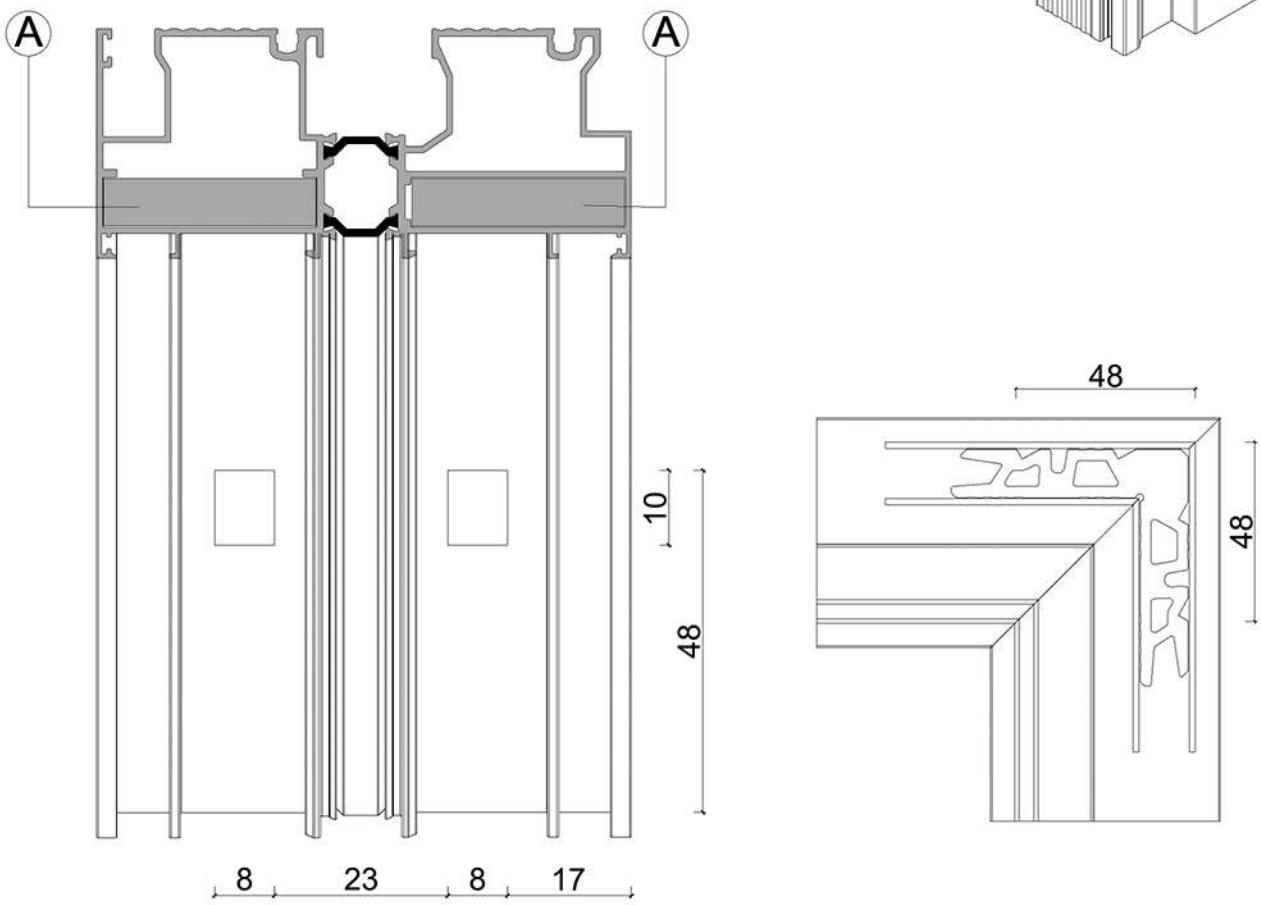




Lift & Slide System 143 Series

Assembly Drawing

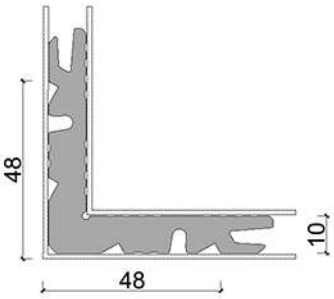




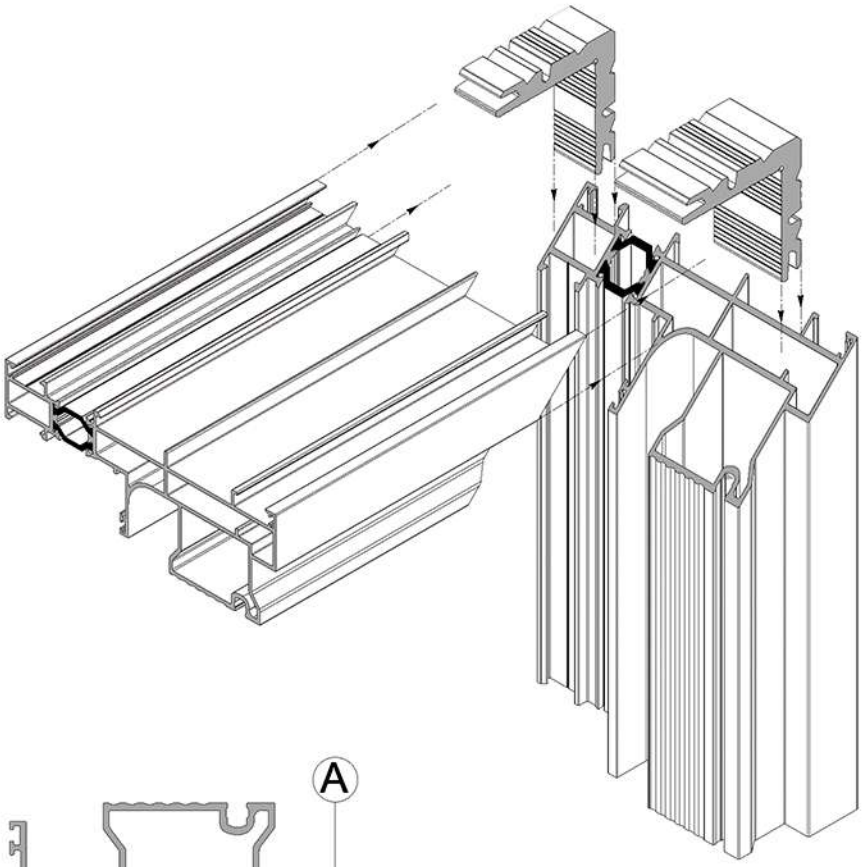
Lift & Slide System 143 Series

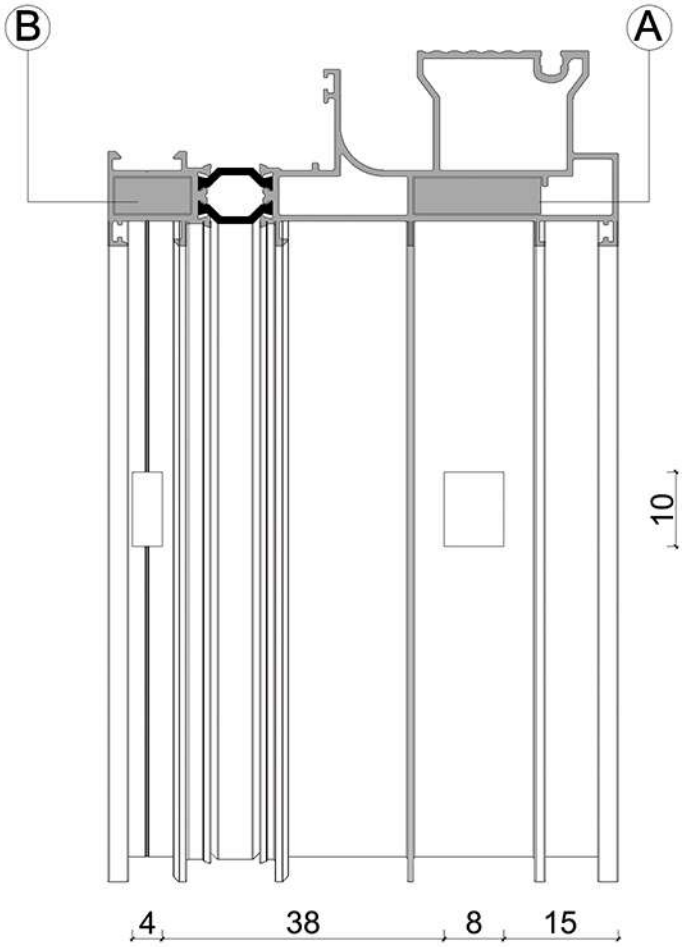
Assembly Drawing

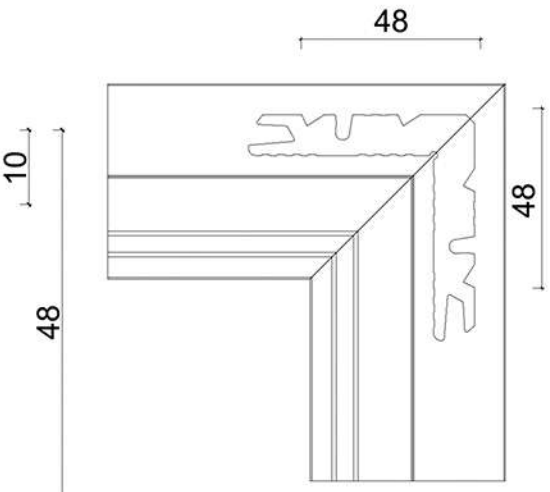
ALN-490



A:PCP-10 / 33.5 mm
B:PCP-10 / 19.8 mm

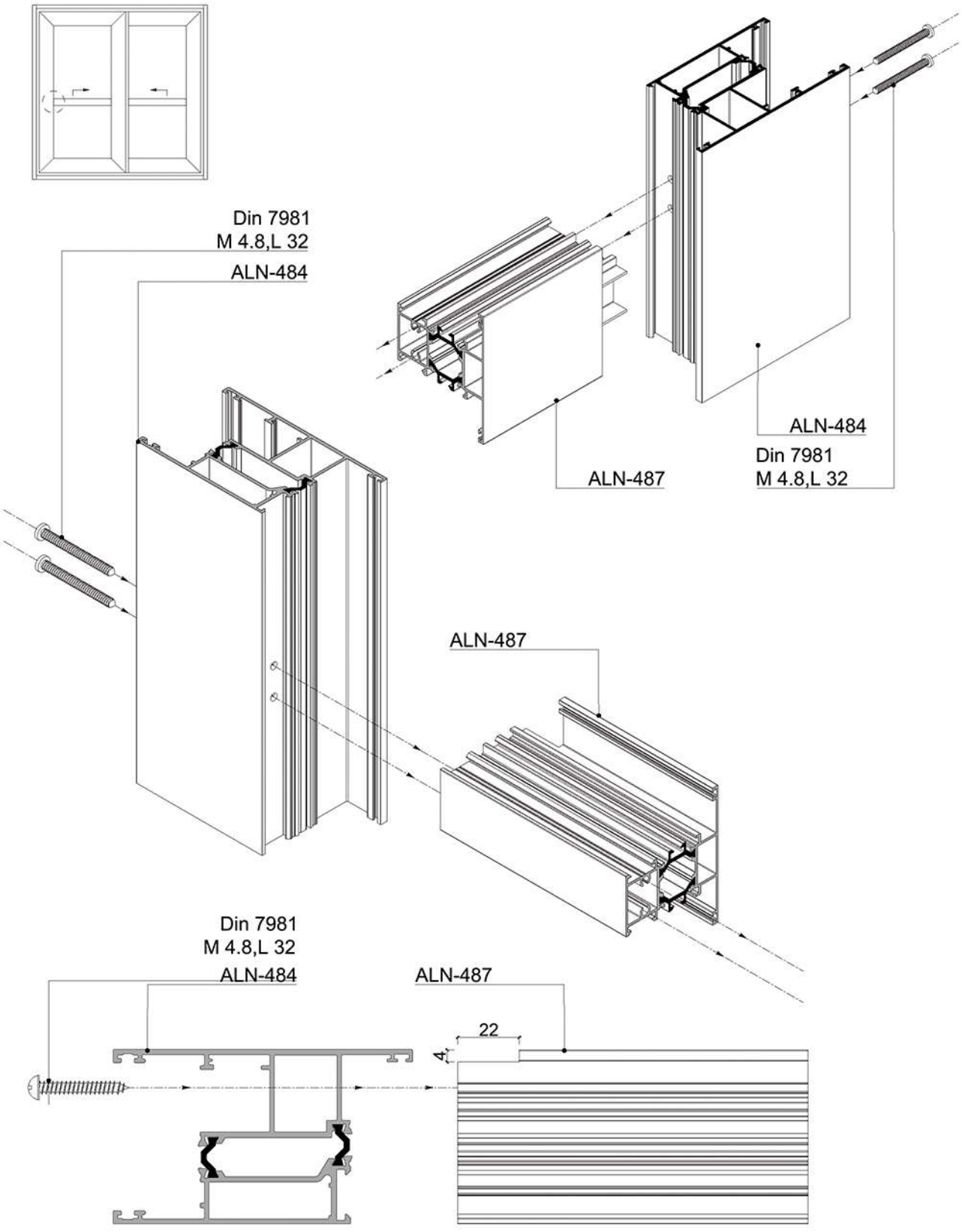






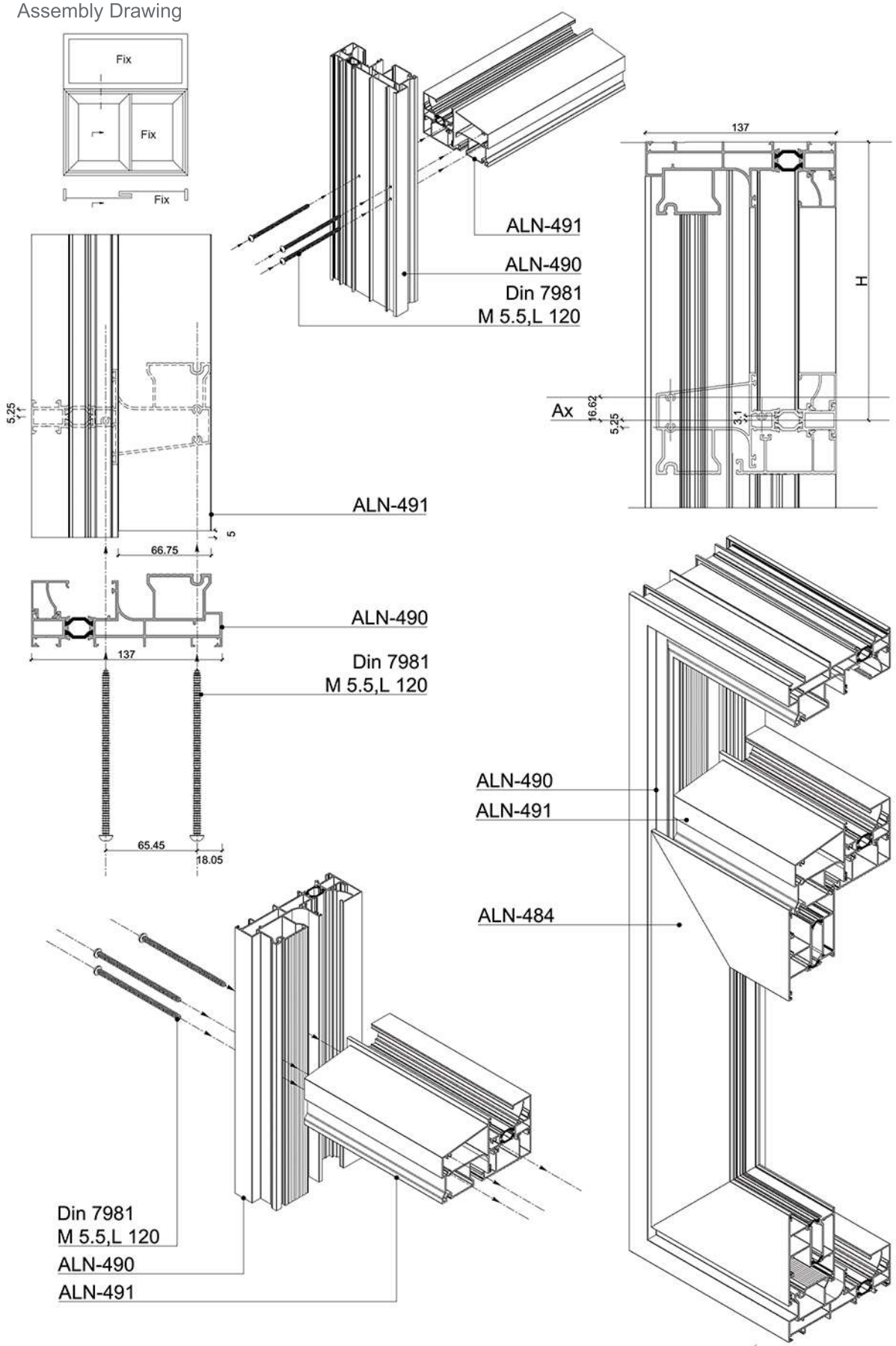
Lift & Slide System 143 Series

Assembly Drawing



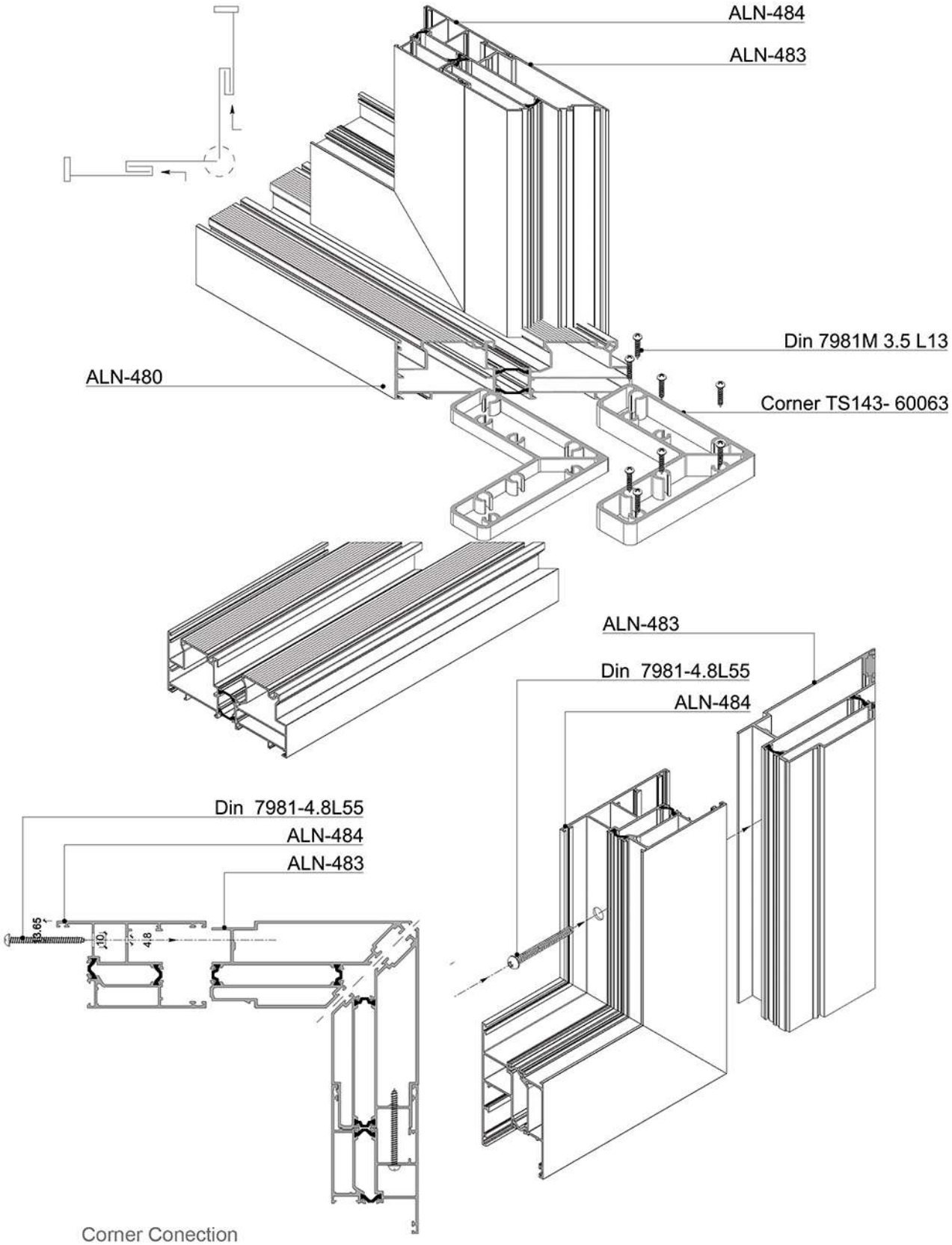
Lift & Slide System 143 Series

Assembly Drawing



Lift & Slide System 143 Series

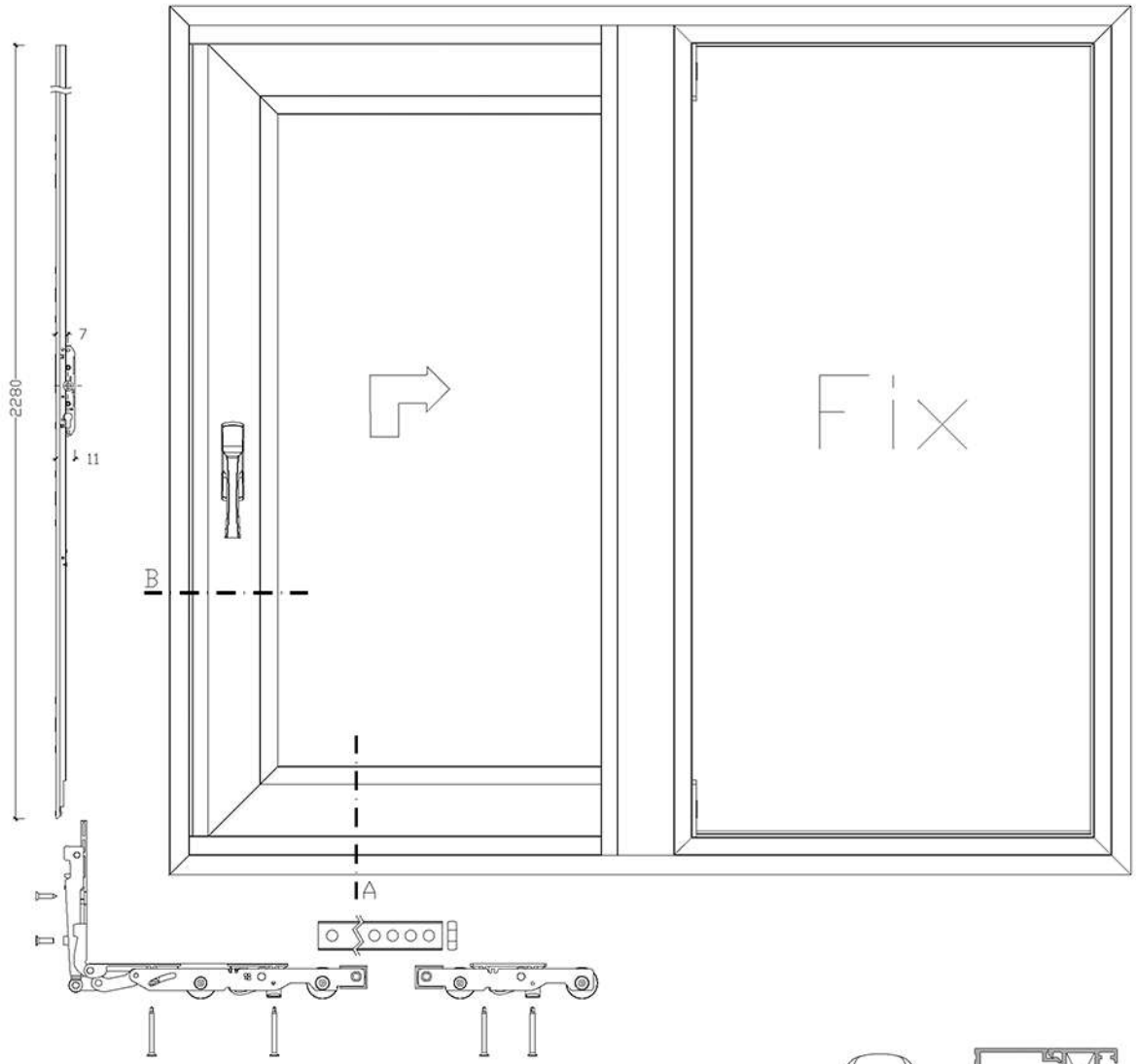
Assembly Drawing

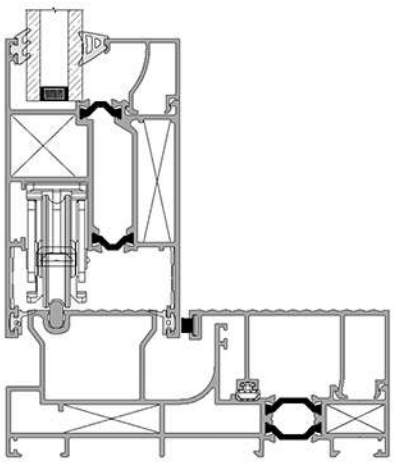


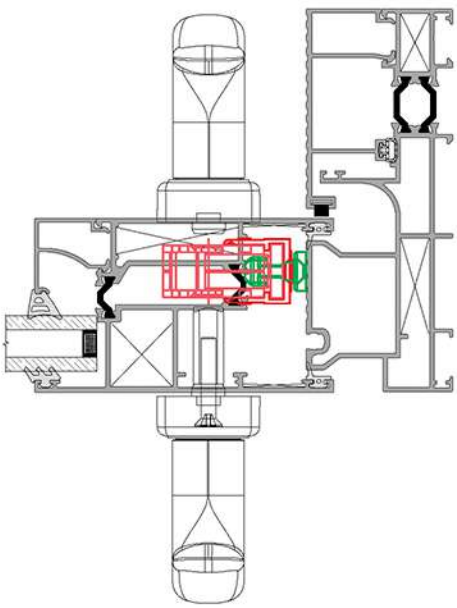
Corner Conection

Lift & Slide System 143 Series

Hardware Installation

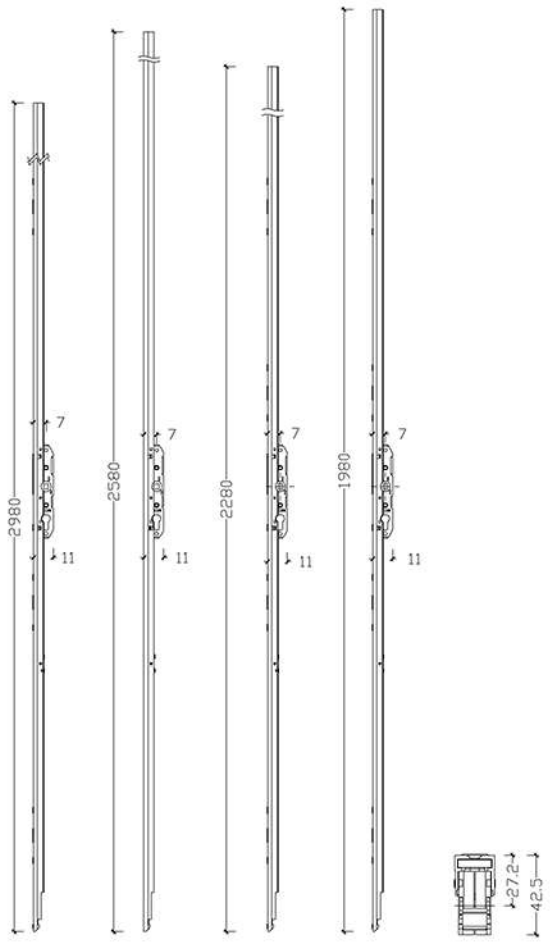


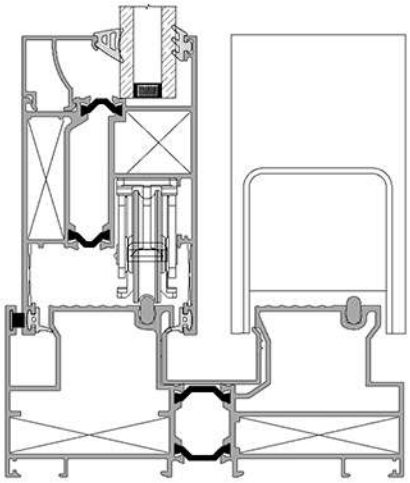


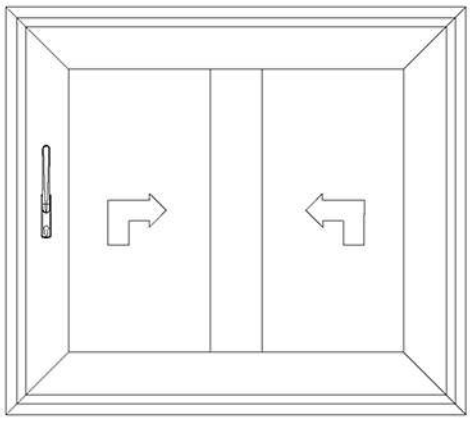


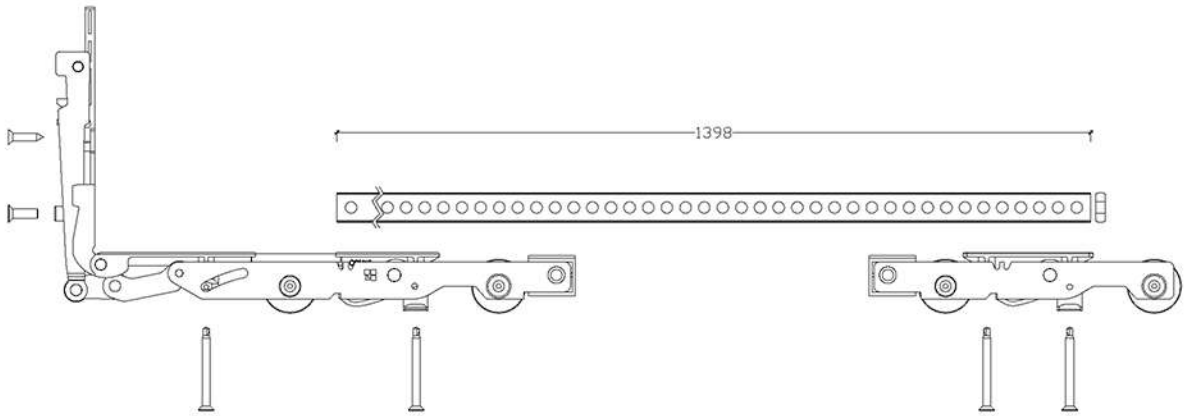
Lift & Slide System 143 Series

Hardware Installation



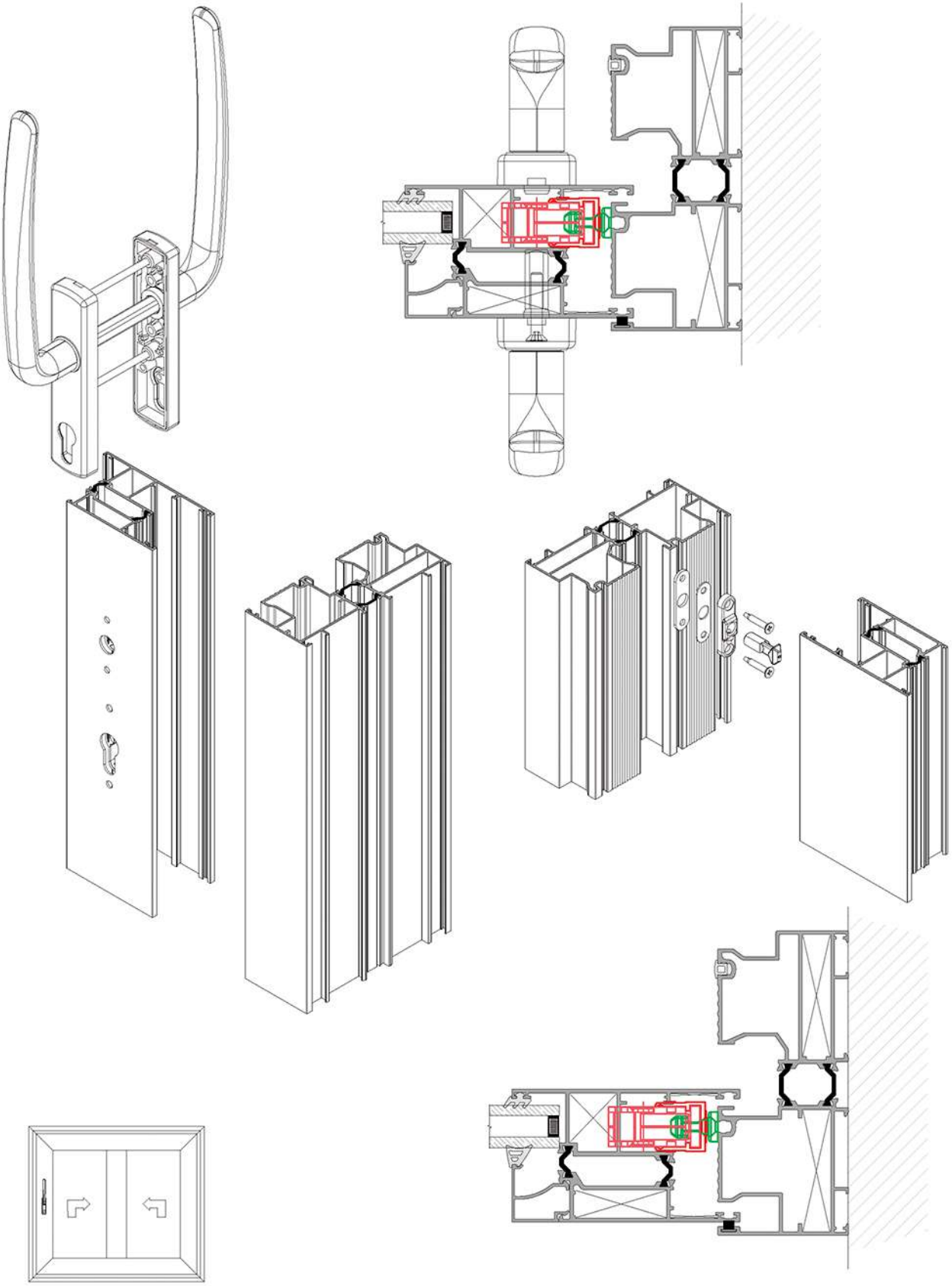






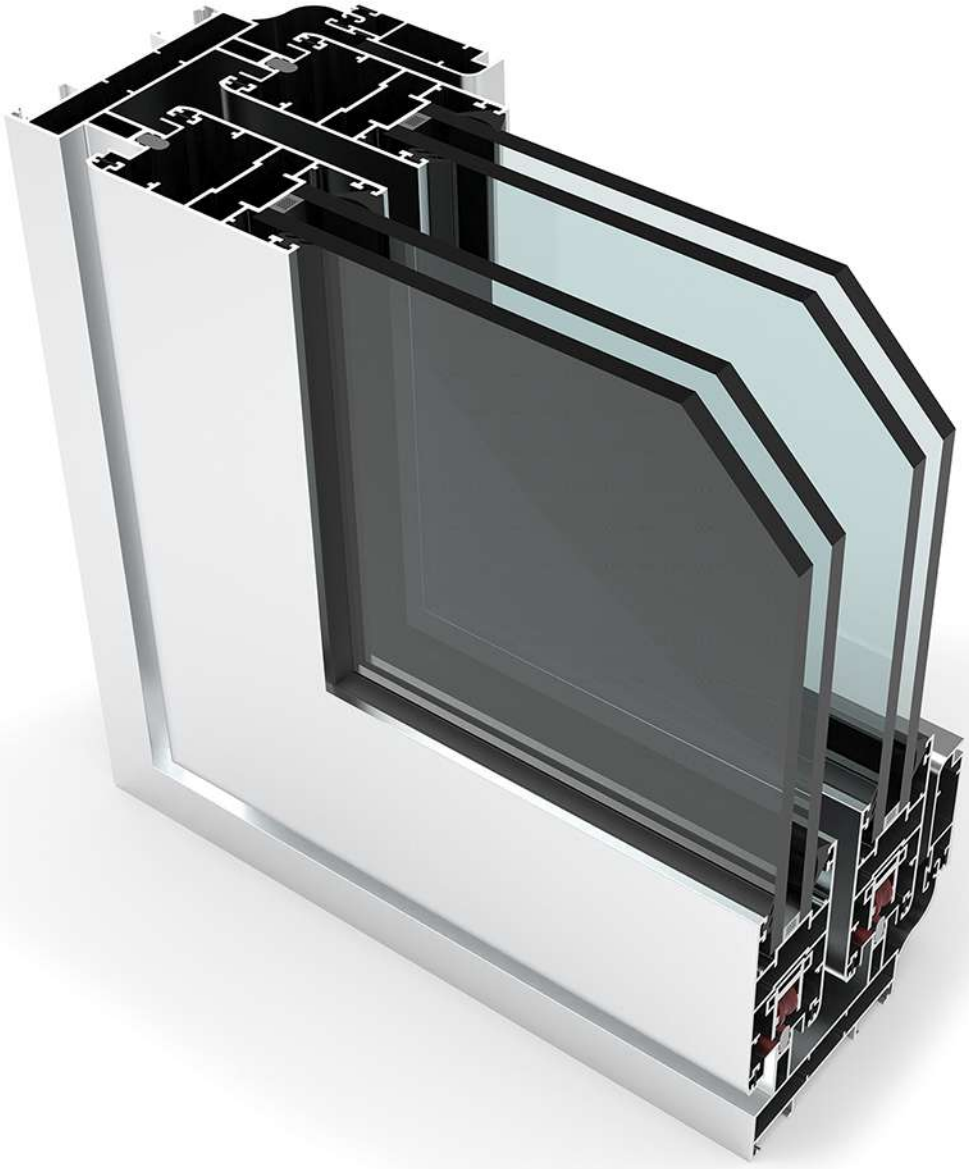
Lift & Slide System 143 Series

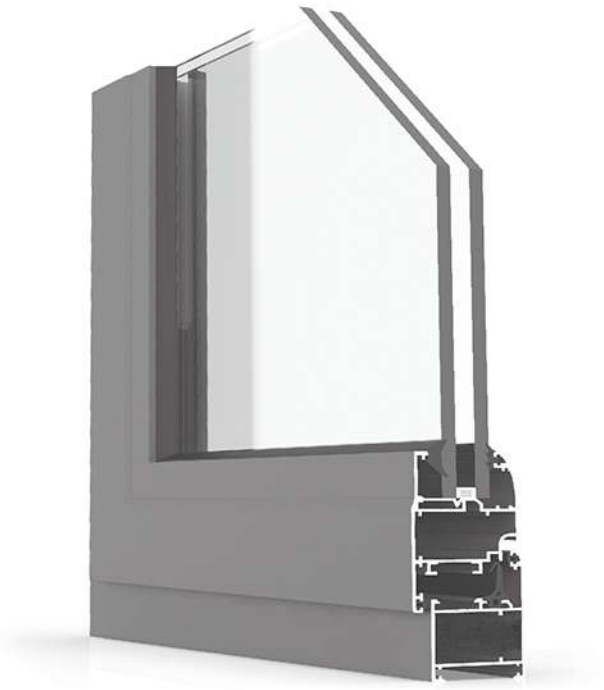
Hardware Installation



ALN 300

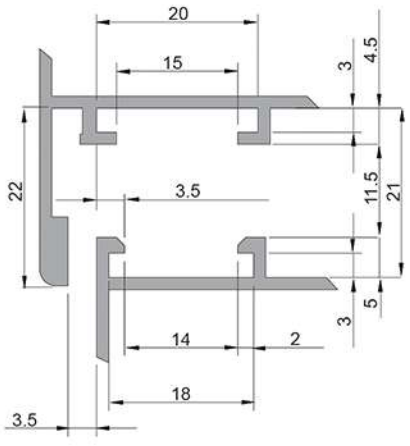
Normal Systems



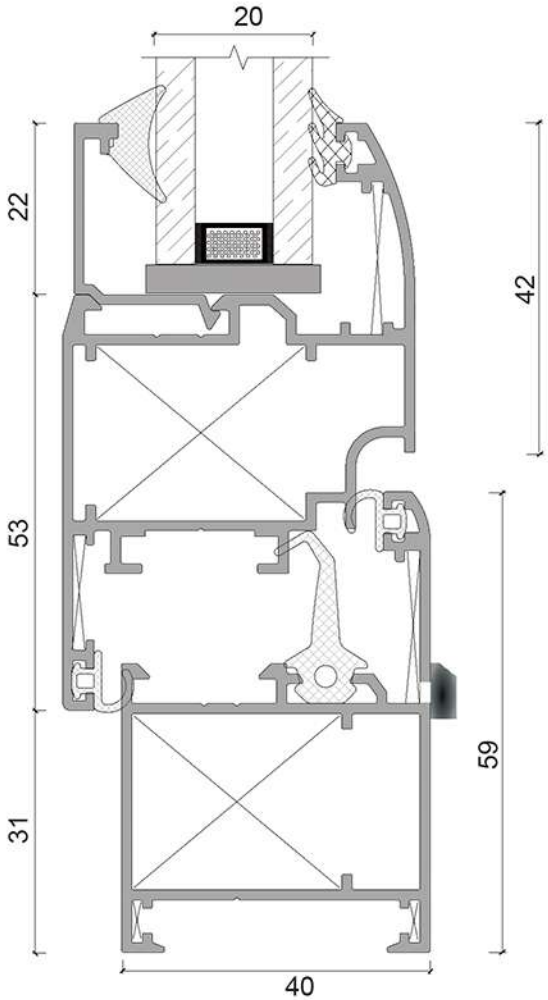


Hinged System 40 Series

. Profile width:	40 - 77 mm
. Vent width:	45 mm
. Wall thickness:	1.3 - 1.4 mm
. Rubber description:	EPDM DIM 7863
. Glass thickness:	6 - 24 m
. Aluminum alloy extrusion:	EN AW 6063 T5
. Safety drainage system	
. Various typologies	

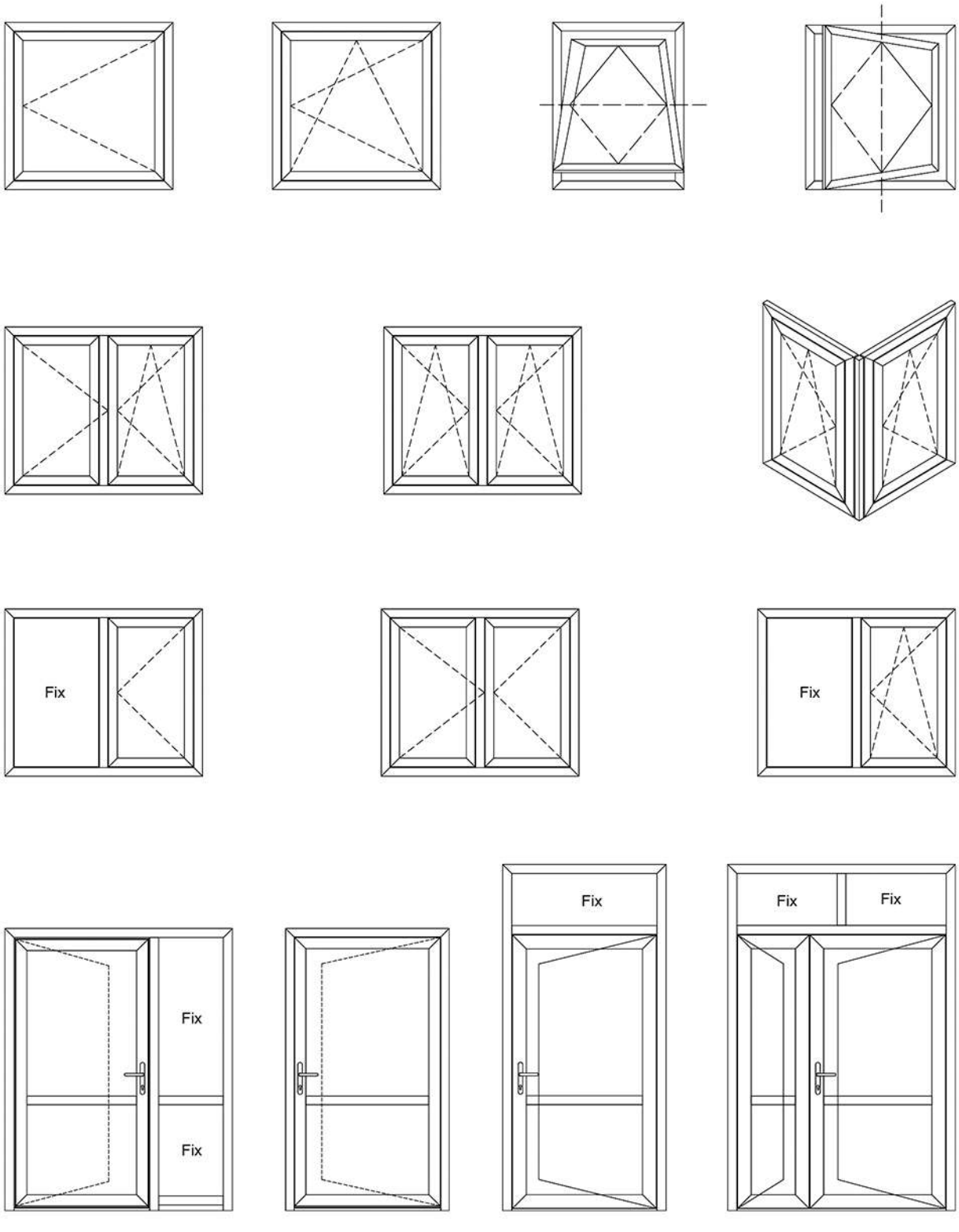


Euro Groove Section



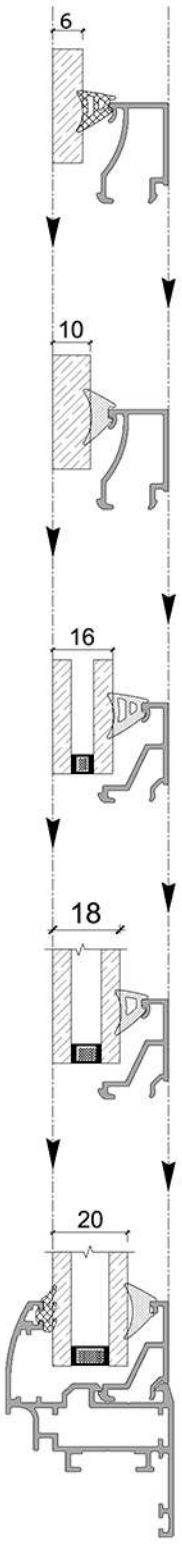
Hinged System 40 Series

Typologies

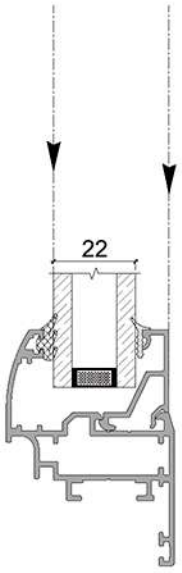


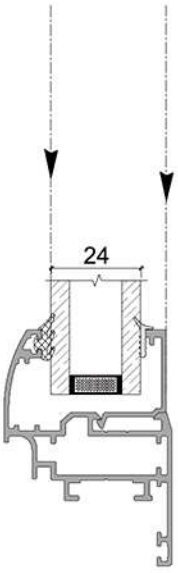
Hinged System 40 Series

Glazing Table



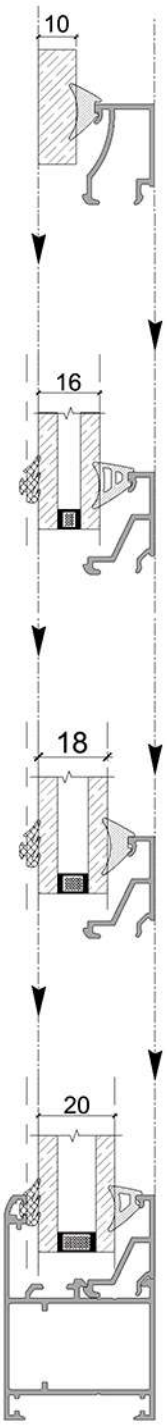
6 mm	7.5 EP-021	MO68-007	ALN-423
10 mm	4.5 EP-016	MO68-007	ALN-423
16 mm	7.5 EP-021	MO68-007	ALN-322
18 mm	5.5 EP-019	MO68-007	ALN-322
20 mm	4.5 EP-016	MO68-007	ALN-321
22 mm	1.9 EP-015	MO68-007	ALN-322
24 mm	1.9 EP-015	MO68-007	ALN-424



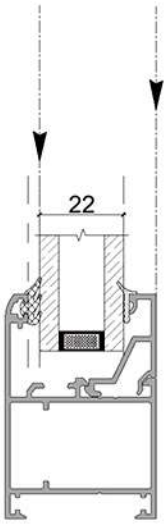


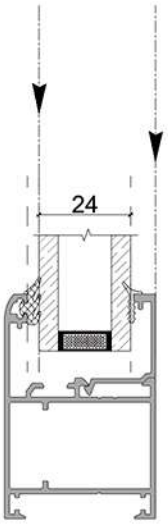
Hinged System 40 Series

Glazing Table



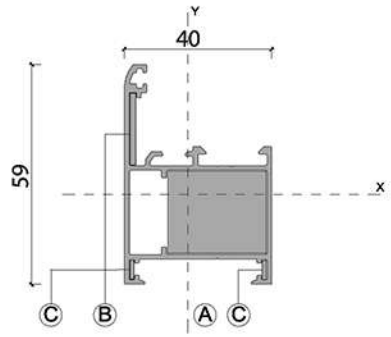
10 mm	4.5 EP-016	MO68-007	ALN-423
16 mm	7.5 EP-021	MO68-007	ALN-322
18 mm	4.5 EP-016	MO68-007	ALN-322
20 mm	7.5 EP-021	MO68-007	ALN-321
22 mm	1.9 EP-015	MO68-007	ALN-322
24 mm	1.9 EP-015	MO68-007	ALN-424



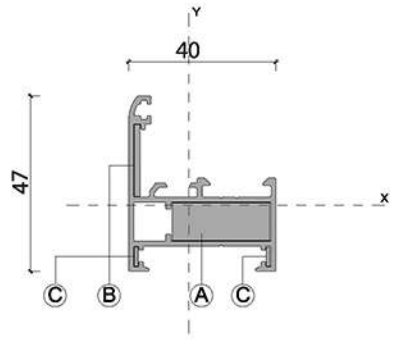


Hinged System 40 Series

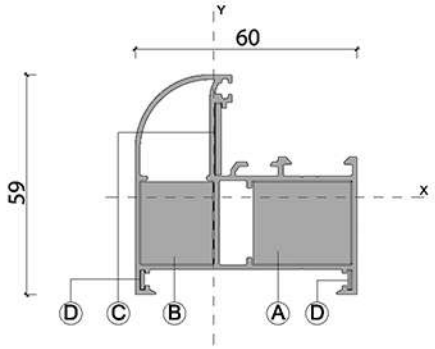
Profile & Accessories Information



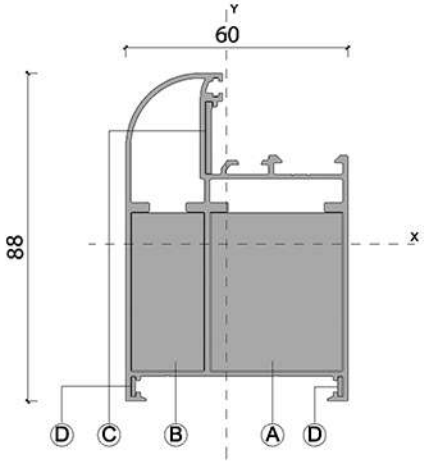
I_X: 7.25 cm⁴	I_Y: 6.41 cm⁴		
Frame : ALN-300	A: PCP-22/26 mm		
	B: fuji 2000		
Weight: 755 gr/m	C: MO 19		



I_X: 3.53 cm⁴	I_Y: 5.23 cm⁴		
Frame : ALN-307	A: PCP-10 / 26 mm		
	B: fuji 2000		
Weight: 670 gr/m	C: MO 19		



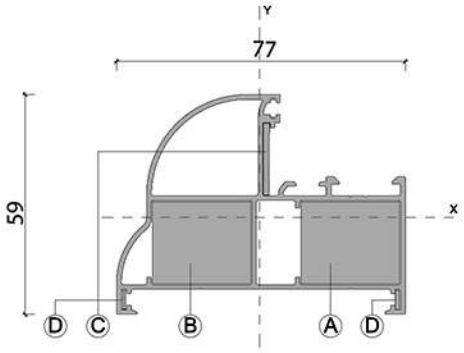
I_X: 11.53 cm⁴	I_Y: 15.34 cm⁴		
Frame : ALN-306	A: PCP-22 / 26 mm		
	B: PCP-22 / 19 mm		
Weight: 1060 gr/m	C: fuji 2000		
	D: MO 19		

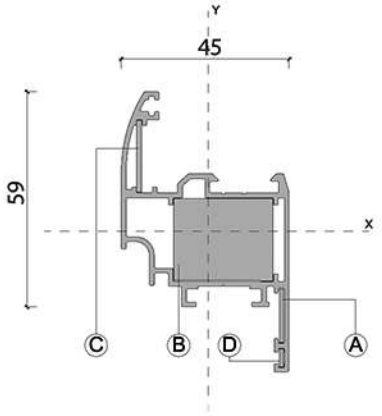


I_X: 37.32 cm⁴	I_Y: 23.52 cm⁴		
Frame : ALN-308	A: PCP-42 / 26 mm		
	B: PCP-42 / 19 mm		
Weight: 1475 gr/m	C: fuji 2000		
	D: MO 19		

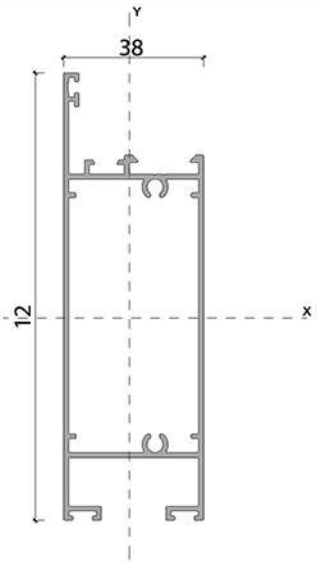
Hinged System 40 Series

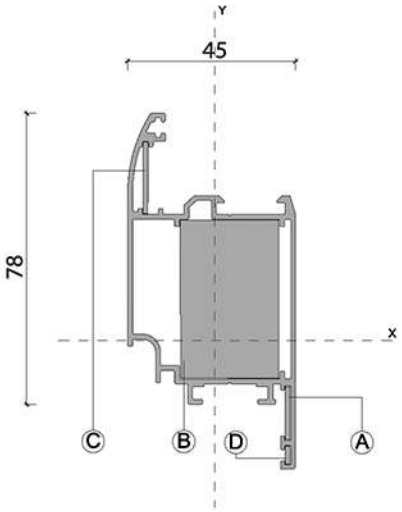
Profile & Accessories Information





I_X: 13.29 cm^4	I_Y: 25.98 cm^4	I_X: 11.04 cm^4	I_Y: 9.55 cm^4
Frame : ALN-366	A: PCP-22/26 mm	Sash : ALN-301	A: MM77
	B: PCP-22/26 mm		B: PCP-22 / 26 mm
Weight: 1250 gr/m	C: fuji 2000	Weight: 930 gr/m	C: fuji 2000
	D: MO 19		D: MO 19

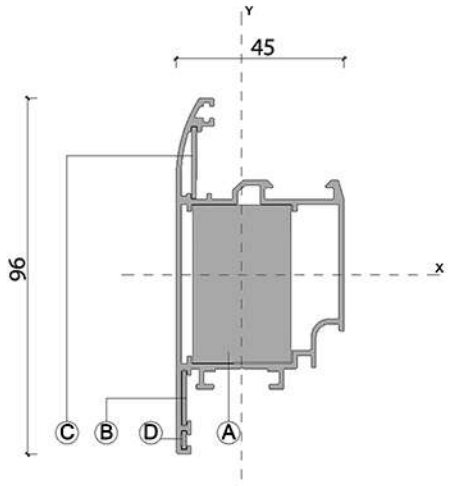


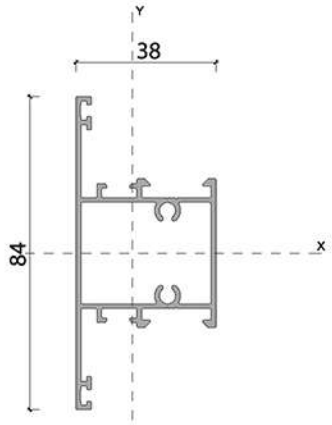


I_X: 63.82 cm^4	I_Y: 11.55 cm^4	I_X: 25.53 cm^4	I_Y: 12.08 cm^4
Frame : ALN-310	A: –	Sash : ALN-302	A: MM77
			B: PCP-42 / 26 mm
Weight: 1295 gr/m	B: –	Weight: 1075 gr/m	C: fuji 2000
			D: MO 19

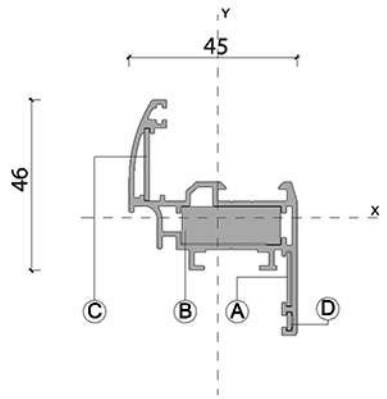
Hinged System 40 Series

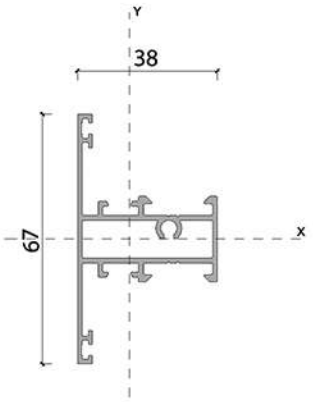
Profile & Accessories Information





I_X: 25.54 cm^4	I_Y: 11.07 cm^4	I_X: 13.50 cm^4	I_Y: 6.71 cm^4
Sash : ALN-303	A: PCP-42 / 26 mm B: MM 77	Transom : ALN-304	A: –
Weight: 1070 gr/m	C: fuji 2000 D: MO 19	Weight: 930 gr/m	B: –

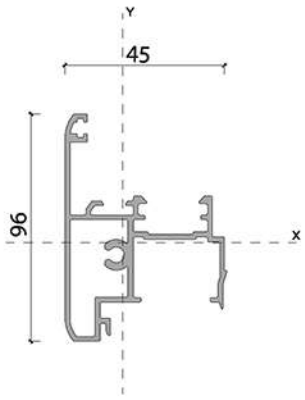


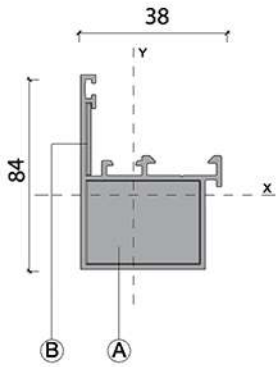


I_X: 5.88 cm^4	I_Y: 7.81 cm^4	I_X: 5.76 cm^4	I_Y: 5.03 cm^4
Sash : ALN-309	A: MM 77 B: PCP-10 / 26 mm	Transom : ALN-311	A: –
Weight: 830 gr/m	C: fuji 2000 D: MO 19	Weight: 770 gr/m	B: –

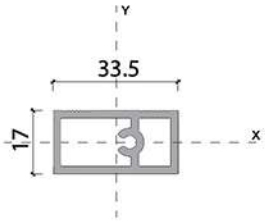
Hinged System 40 Series

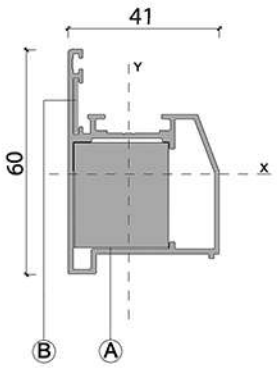
Profile & Accessories Information





I_X: 6.64 cm^4	I_Y: 6.04 cm^4	I_X: 4.73 cm^4	I_Y: 4.14 cm^4
Profile : ALN-305	A: –	Profile : ALN-313	A: PCP-22 / 30 mm
Weight: 870 gr/m	B: –	Weight: 607 gr/m	B: Fuji2000

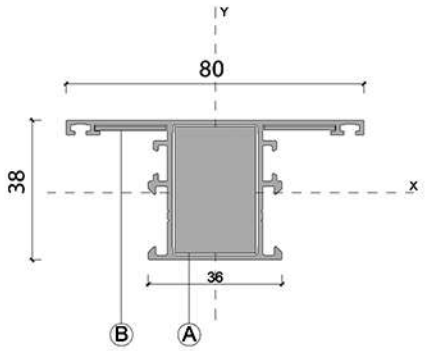




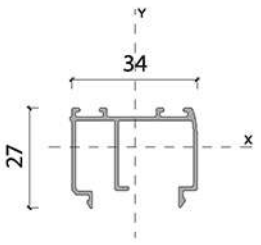
I_X: 0.86 cm^4	I_Y: 2.62 cm^4	I_X: 7.69 cm^4	I_Y: 6.07 cm^4
Profile : ALN-312	A: –	Profile : ALN-314	A: PCP-28 / 25 mm
Weight: 608 gr/m	B: –	Weight: 751 gr/m	B: MM 77

Hinged System 40 Series

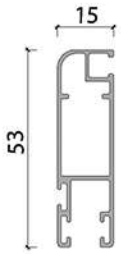
Profile & Accessories Information



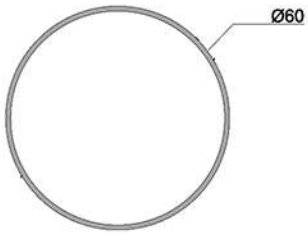
I_X: 7.76 cm^4	I_Y: 5.26 cm^4
Profile : ALN-315	A: PCP-22 / 34 mm
Weight: 821 gr/m	B: fuji 2000



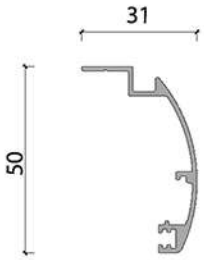
I_X: 1.00 cm^4	I_Y: 2.33 cm^4
Profile : ALN-316	A: –
Weight: 343 gr/m	B: –



Fly screen : ALN-207	Weight: 448 gr/m



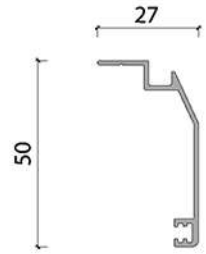
Profile : ALN-215	Weight : 648 gr/m



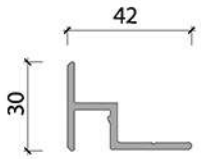
Flange profile: ALN-219	Weight : 362 gr/m

Hinged System 40 Series

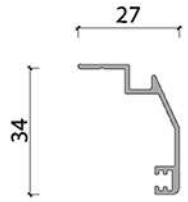
Profile & Accessories Information



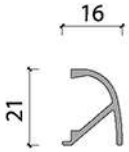
Flange profile: ALN-221	Weight : 302 gr/m



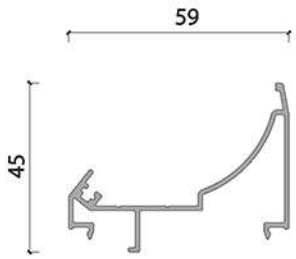
Profile : ALN-228	Weight: 135 gr/m



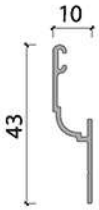
Flange profile: ALN-222	Weight : 254 gr/m



profile: ALN-229	Weight : 192 gr/m



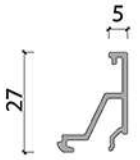
Profile : ALN-225	Weight : 548 gr/m



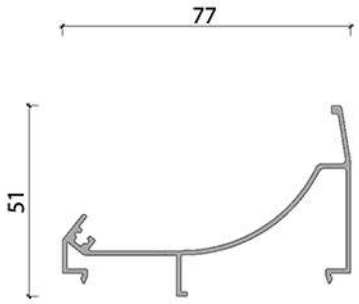
Profile : ALN-230	Weight: 192 gr/m

Hinged System 40 Series

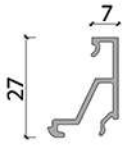
Profile & Accessories Information



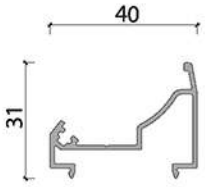
Glazing beads: ALN-321	Weight : 224 gr/m



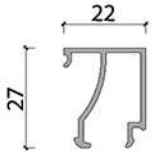
Profile : ALN-326	Weight : 613 gr/m



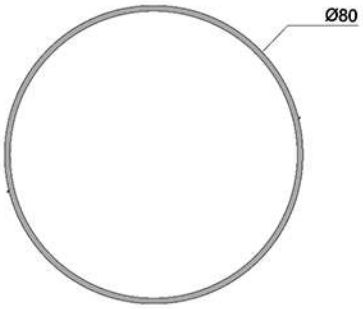
Glazing beads: ALN-322	Weight : 224 gr/m



Profile : ALN-327	Weight : 367 gr/m



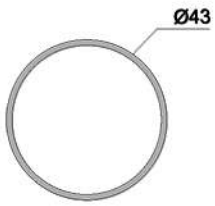
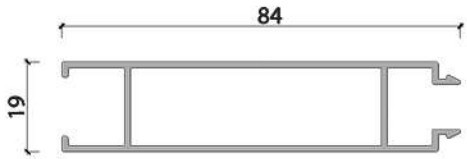
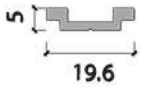
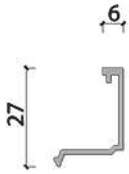
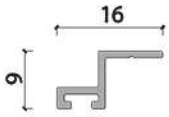
Glazing beads: ALN-323	Weight : 302 gr/m



Profile : ALN-328	Weight : 999 gr/m

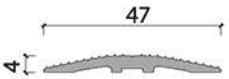
Hinged System 40 Series

Profile & Accessories Information

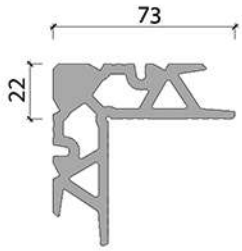
			
Profile : ALN-329	Weight : 525 gr/m	Profile : ALN-412	Weight : 691 gr/m
			
Profile : ALN-331	Weight : 140 gr/m	Glazing beads: ALN-424	Weight : 167 gr/m
			
profile: ALN-332	Weight : 113 gr/m	profile: ALN-443	Weight : 76 gr/m

Hinged System 40 Series

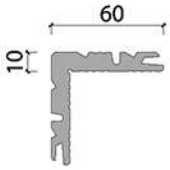
Profile & Accessories Information



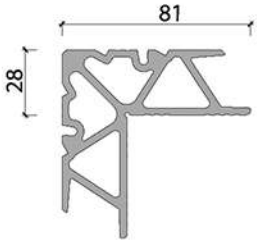
profile: ALN-444	Weight : 344 gr/m



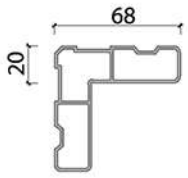
Corner joint: PCP-22	Weight : 3718 gr/m



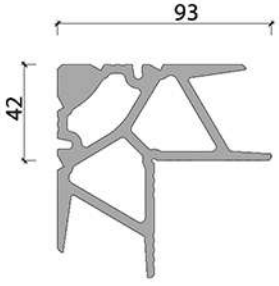
Corner joint: PCP-10	Weight : 2454 gr/m



Corner Joint: PCP-28	Weight : 3429 gr/m



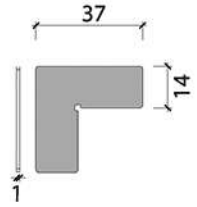
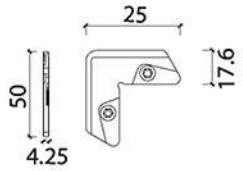
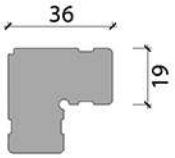
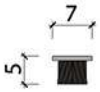
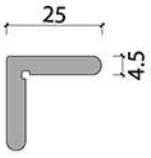
Corner joint: PCP 20	Weight : 1375 gr/m



Corner joint: PCP-42	Weight : 5133 gr/m

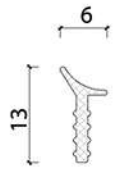
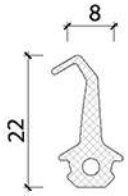
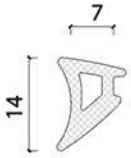
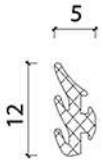
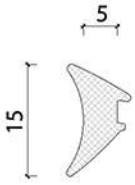
Hinged System 40 Series

Profile & Accessories Information

			
Corner joint: MM 77	Weight : –	Corner Joint: Fuji 2000	Weight: –
			
Corner joint: AKW-804	Weight : –	PB7-3P-70-500	Weight:
			
Corner: MO 19	Weight: –	PB7-3P-50-700	Weight: –

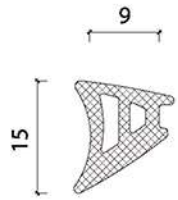
Hinged System 40 Series

Profile & Accessories Information

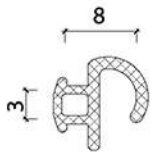
			
PB7-3P-70-1000	Weight : –	Gasket: EP-015	Weight : 21 gr/m
			
Gasket: 1015	Weight : 116 gr/m	Gasket: EP-019	Weight : 61 gr/m
			
Gasket: MO68	Weight : 48 gr/m	Gasket: EP-016	Weight : 77 gr/m

Hinged System 40 Series

Profile & Accessories Information



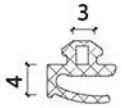
Gasket: EP-021	Weight : 80 gr/m



Gasket: MO 60 EP-018	Weight : 27 gr/m



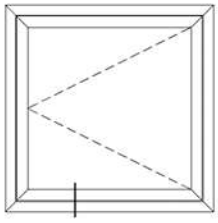
Gasket: mo 60	Weight : 26 gr/m

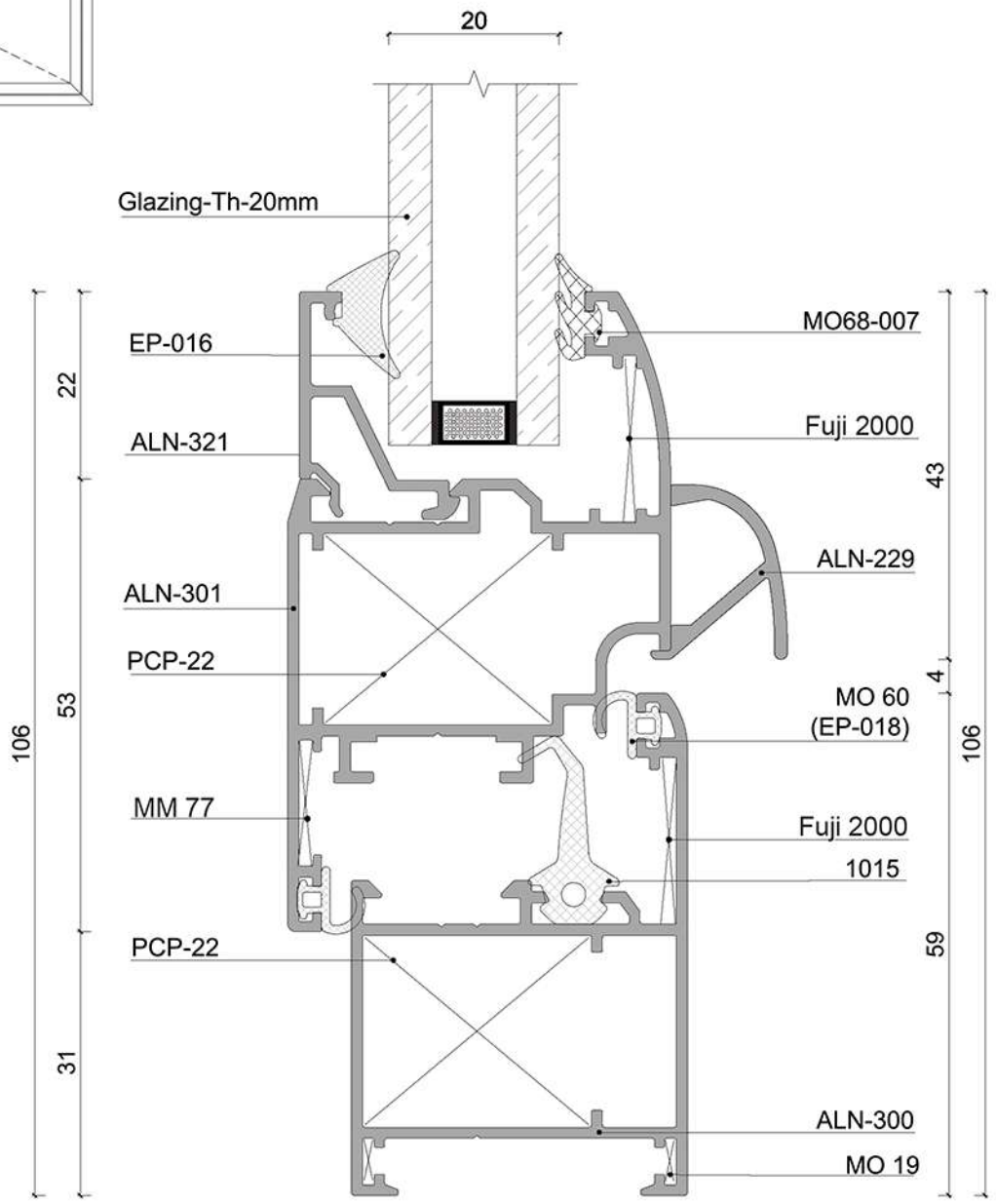


Gasket: 3523801	Weight: 35 gr/m

Hinged System 40 Series

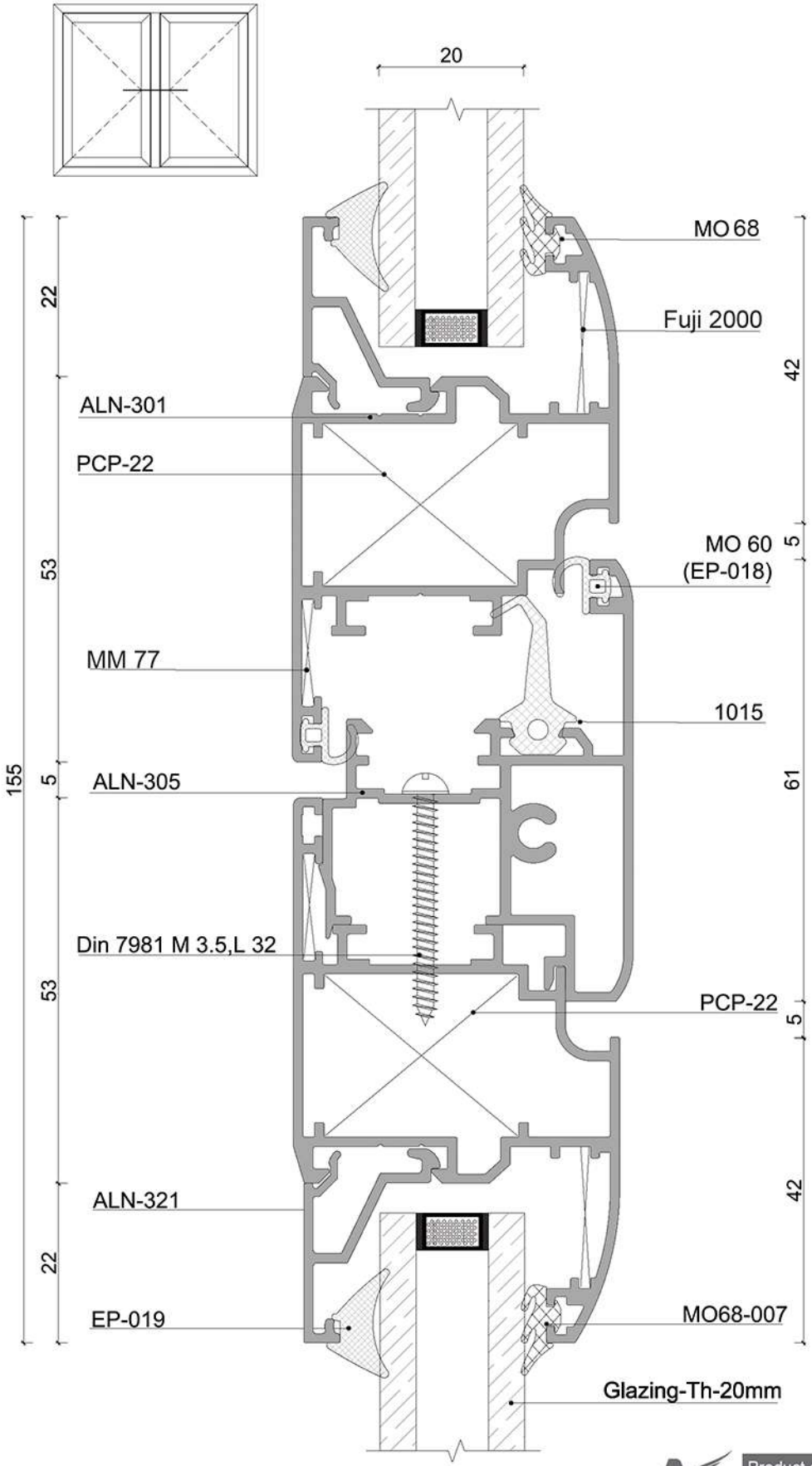
Fabrication Detailes





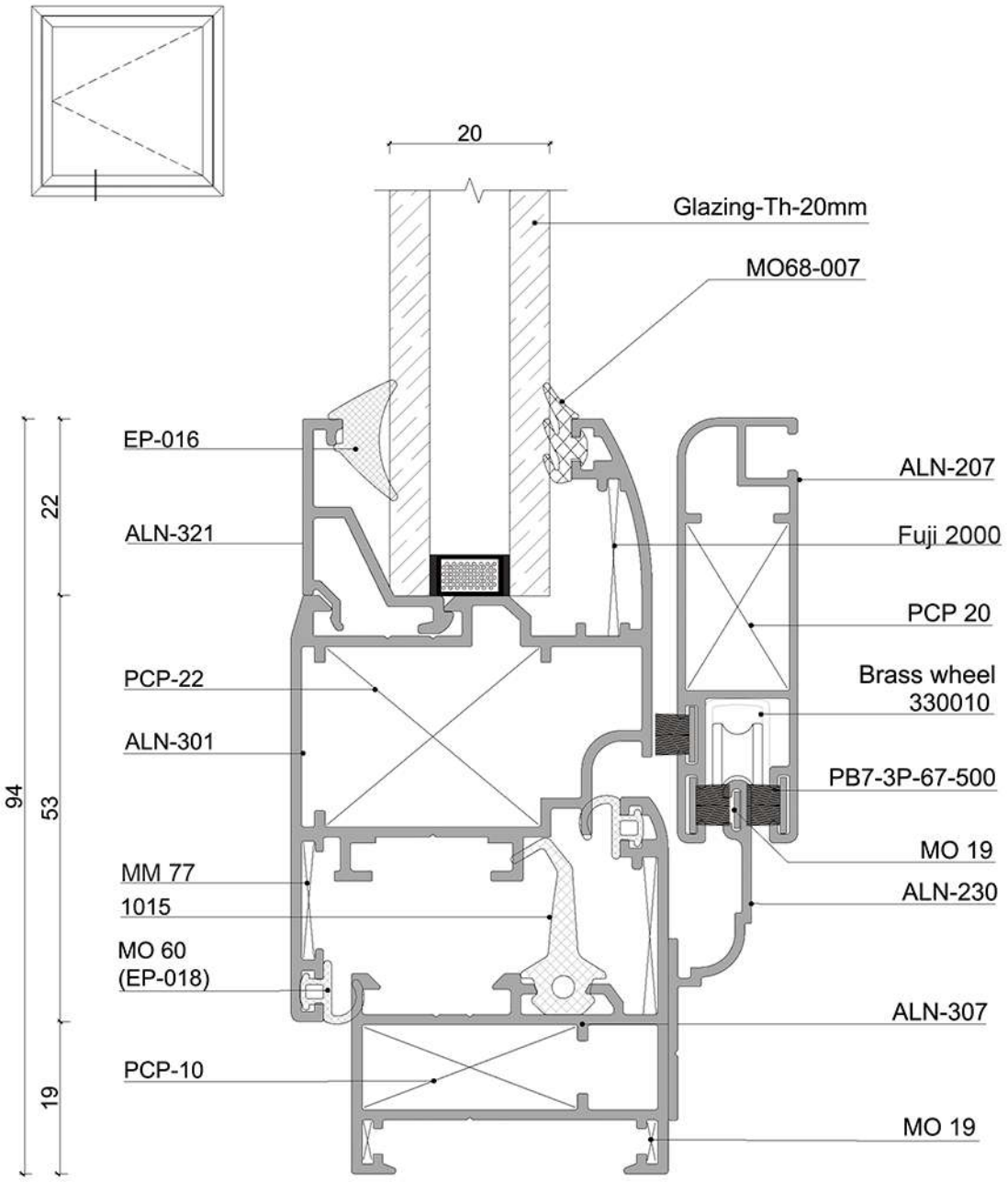
Hinged System 40 Series

Fabrication Detailes



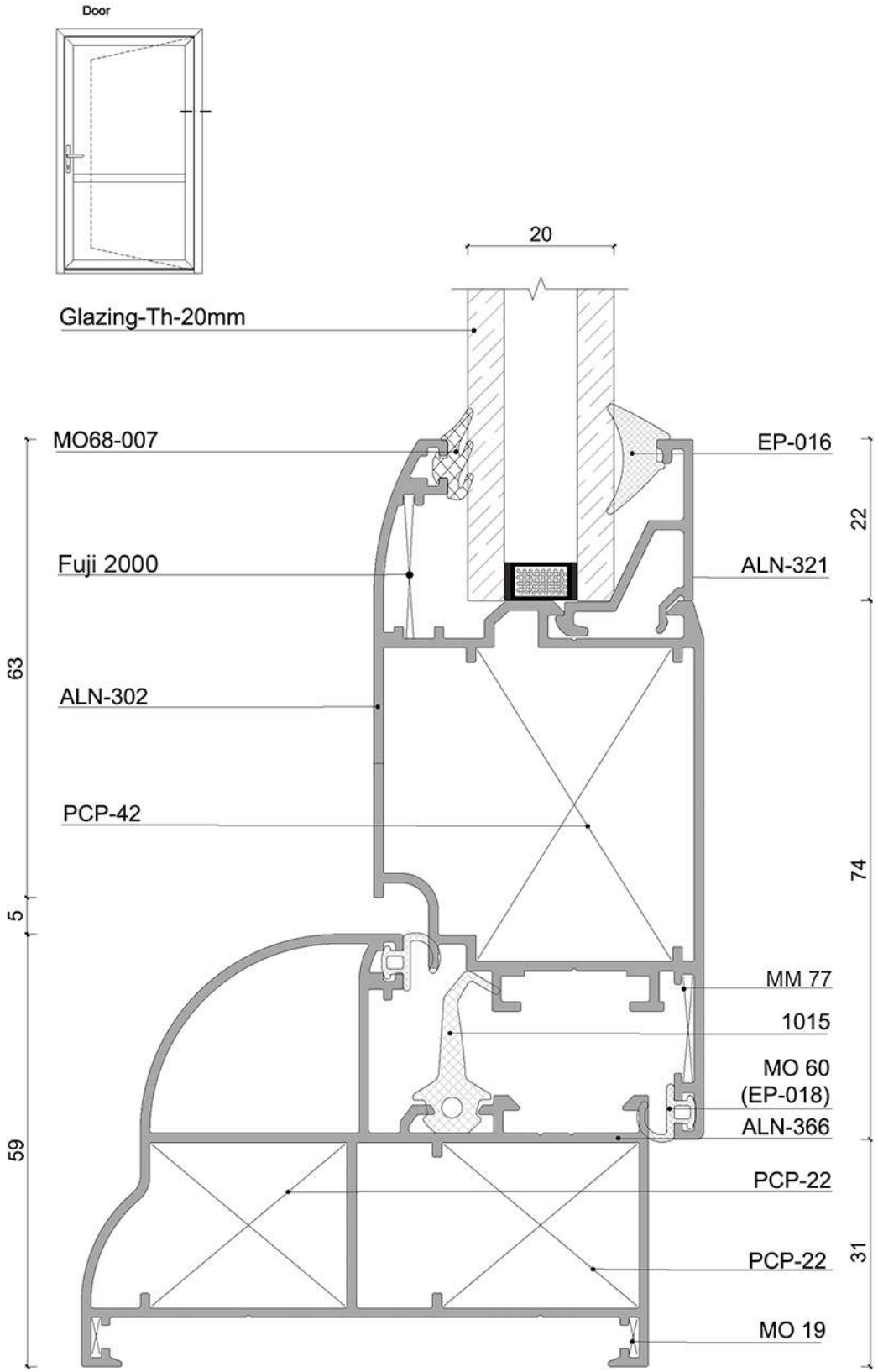
Hinged System 40 Series

Fabrication Detailes



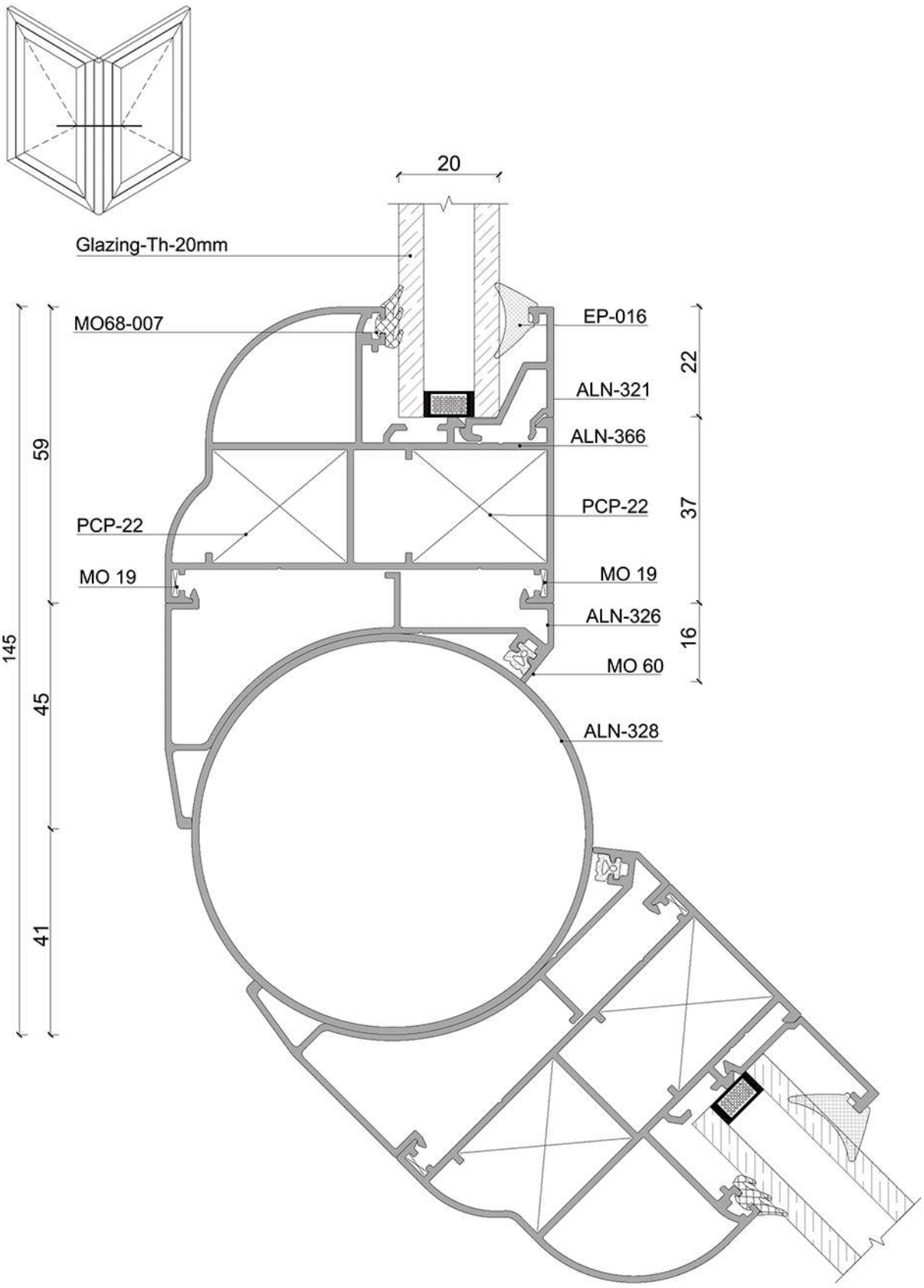
Hinged System 40 Series

Fabrication Detailes



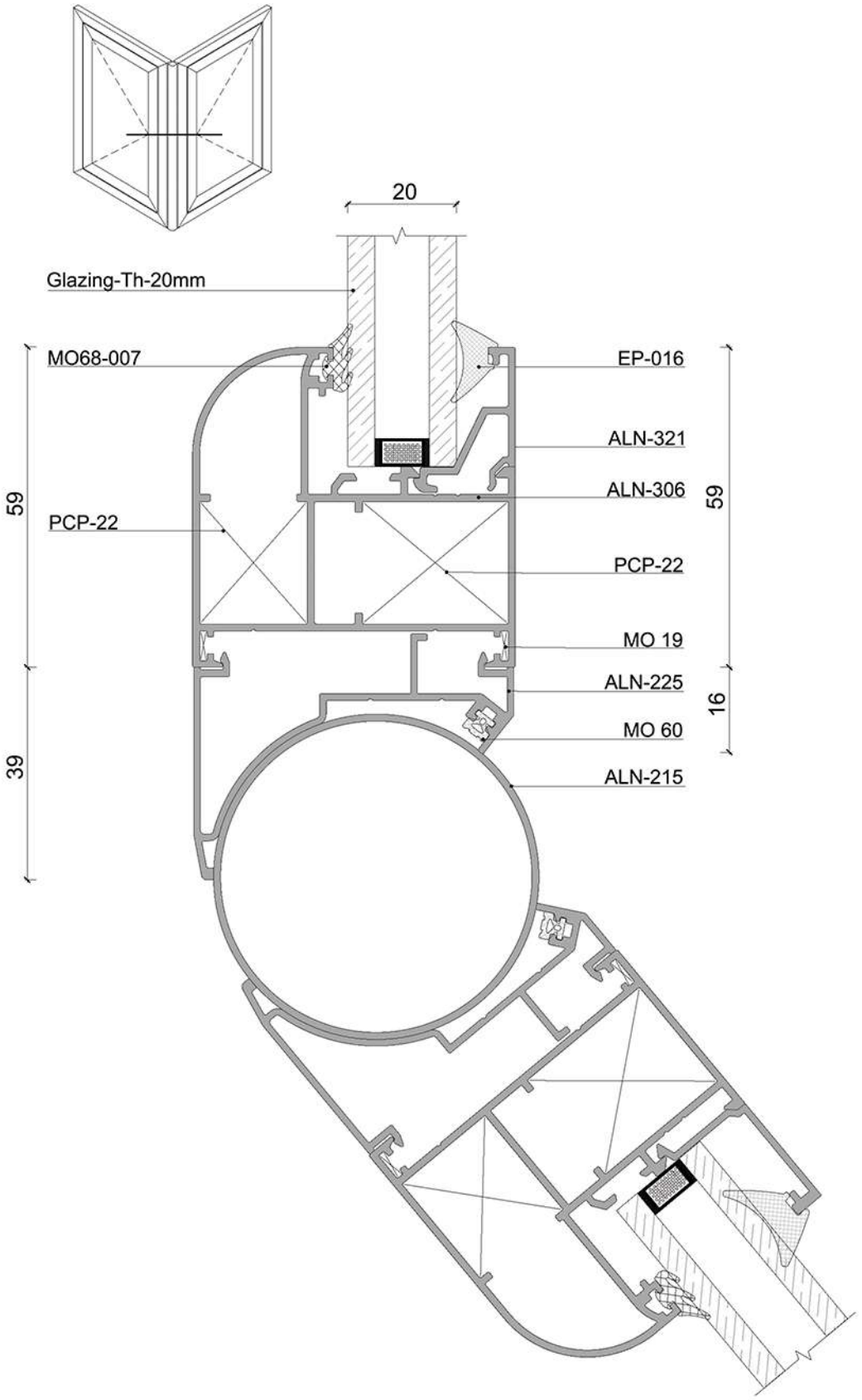
Hinged System 40 Series

Fabrication Detailes



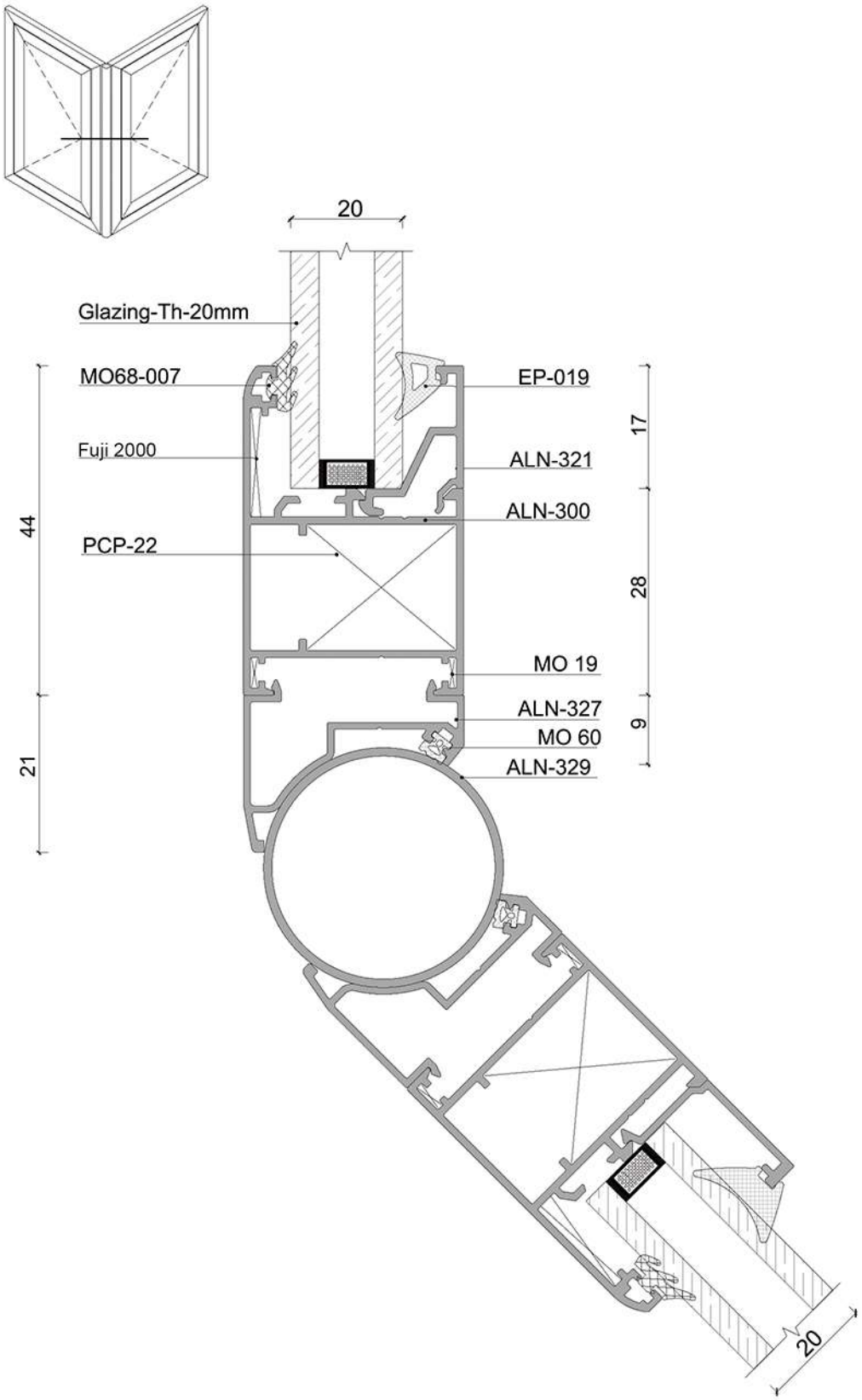
Hinged System 40 Series

Fabrication Detailes



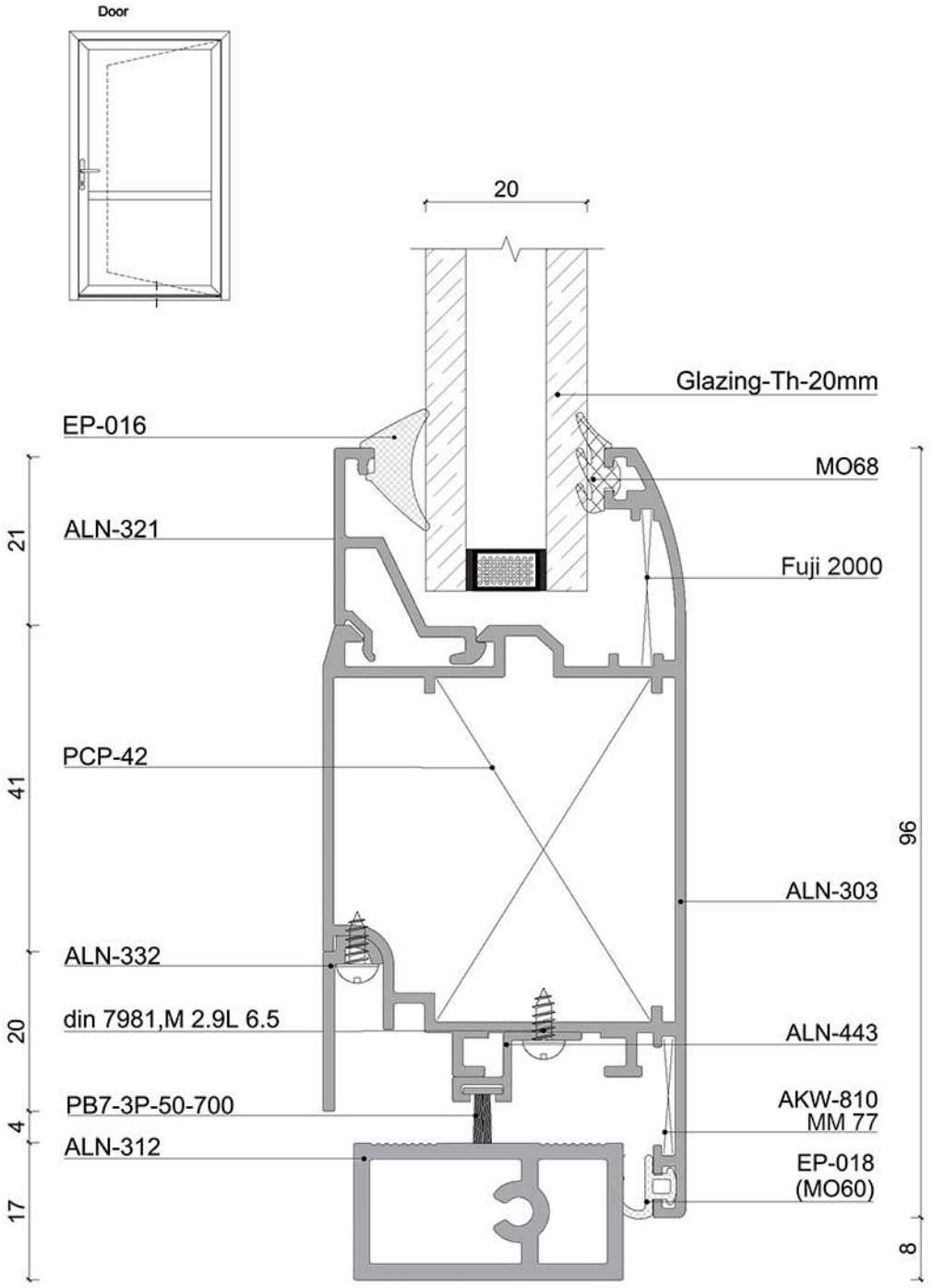
Hinged System 40 Series

Fabrication Detailes



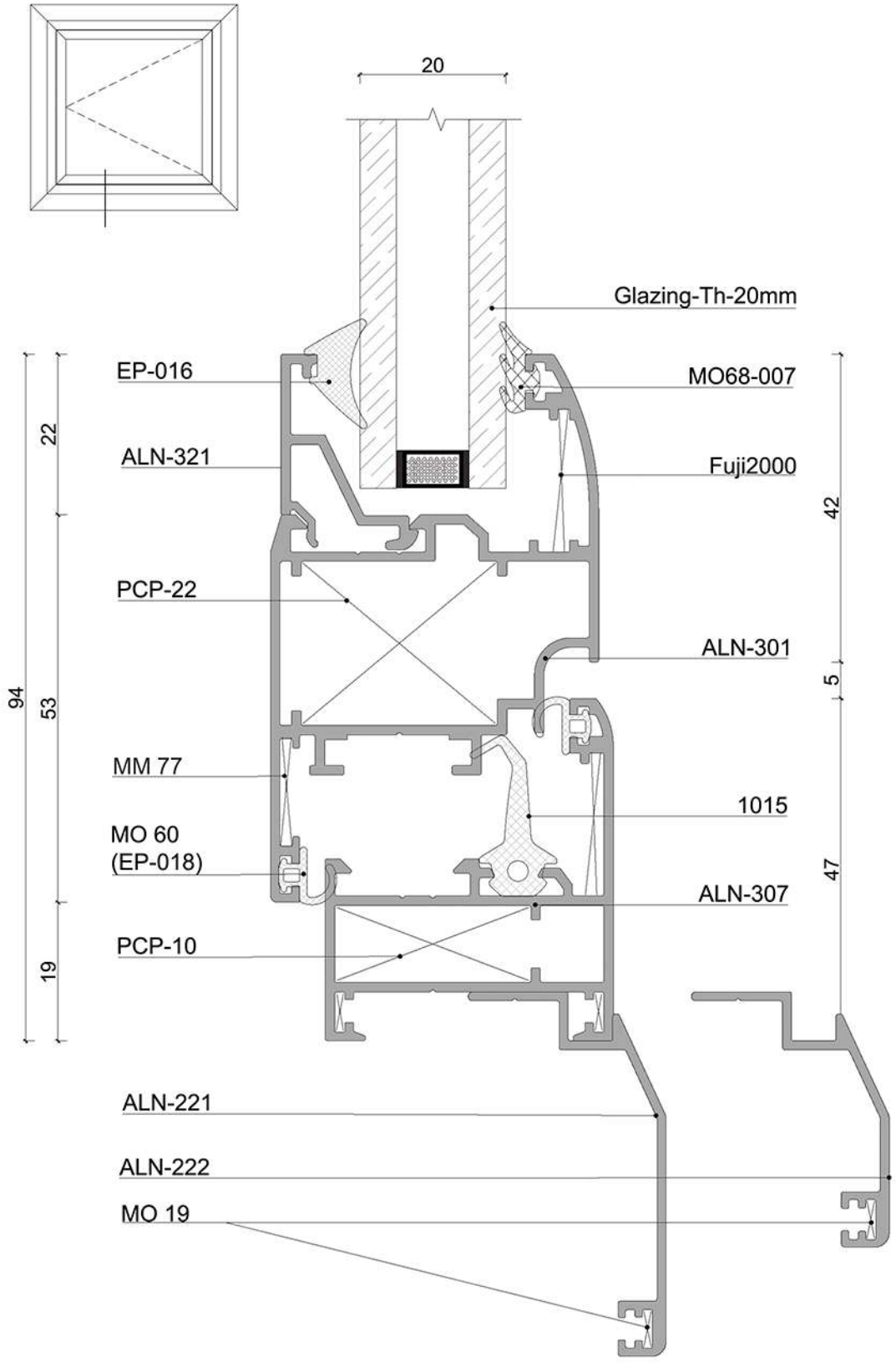
Hinged System 40 Series

Fabrication Detailes



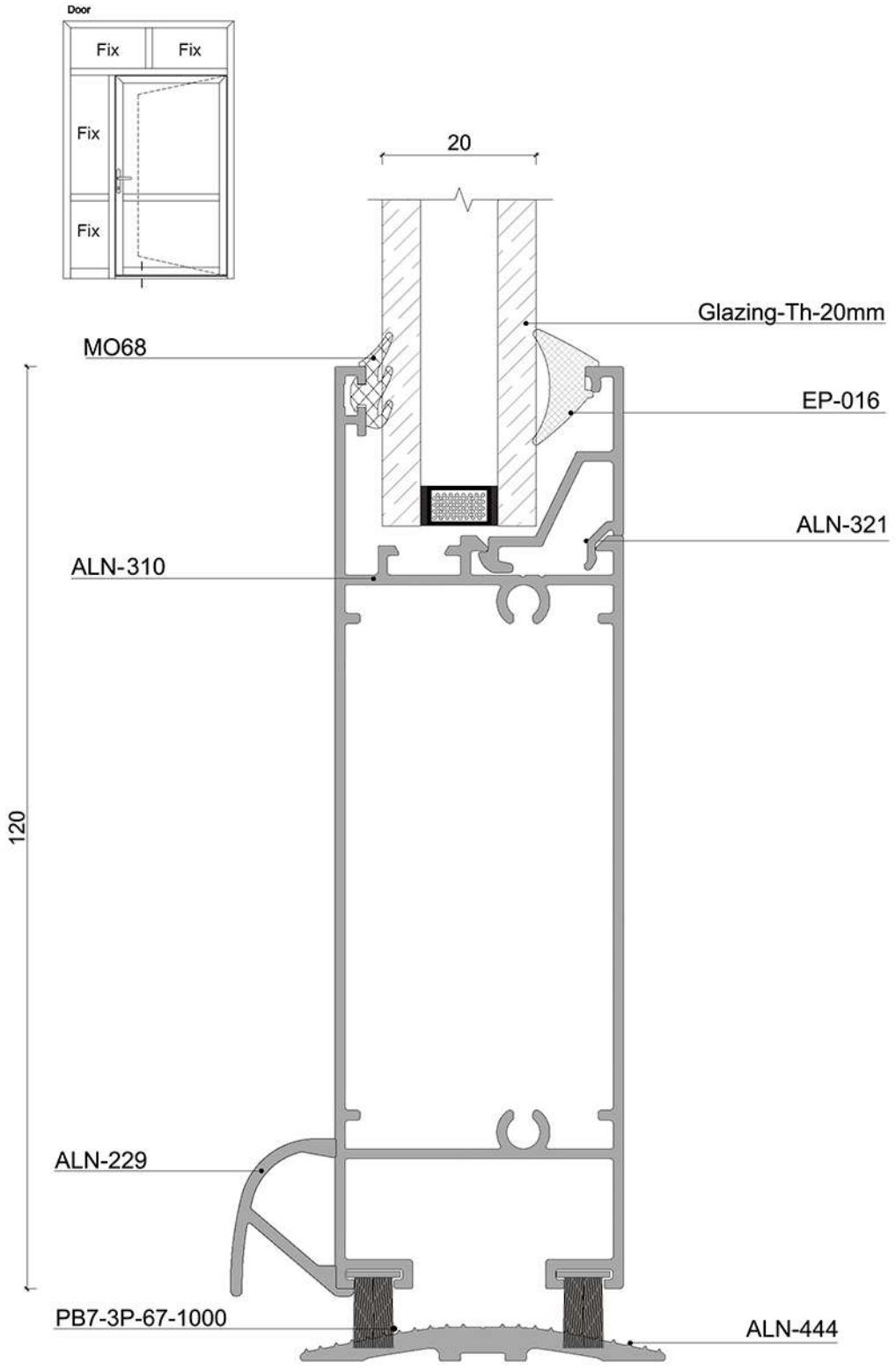
Hinged System 40 Series

Fabrication Detailes



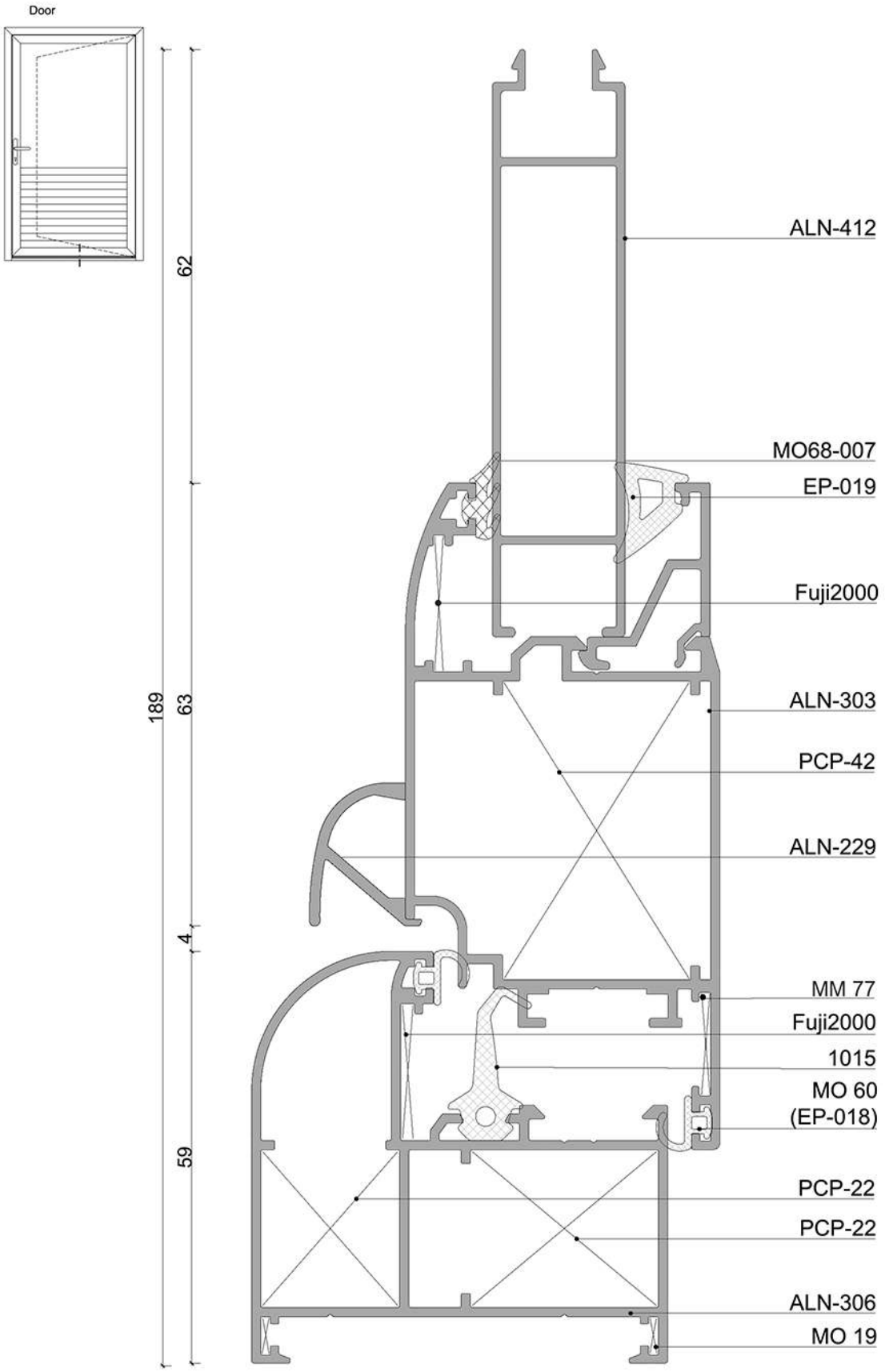
Hinged System 40 Series

Fabrication Detailes



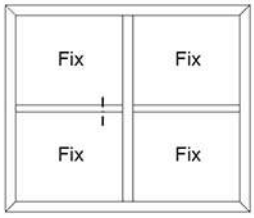
Hinged System 40 Series

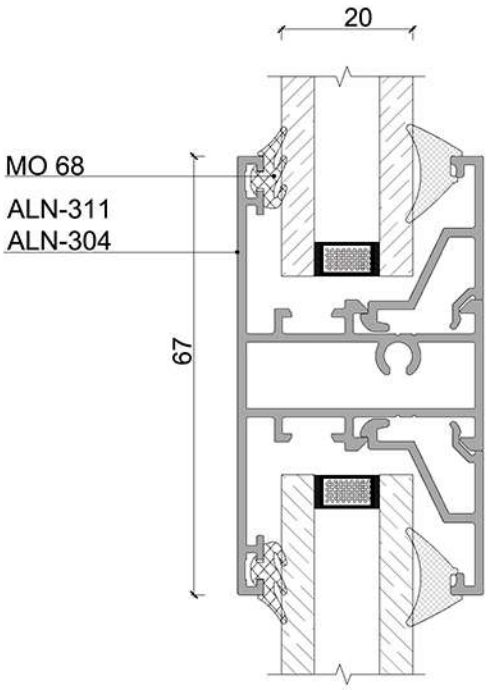
Fabrication Detailes

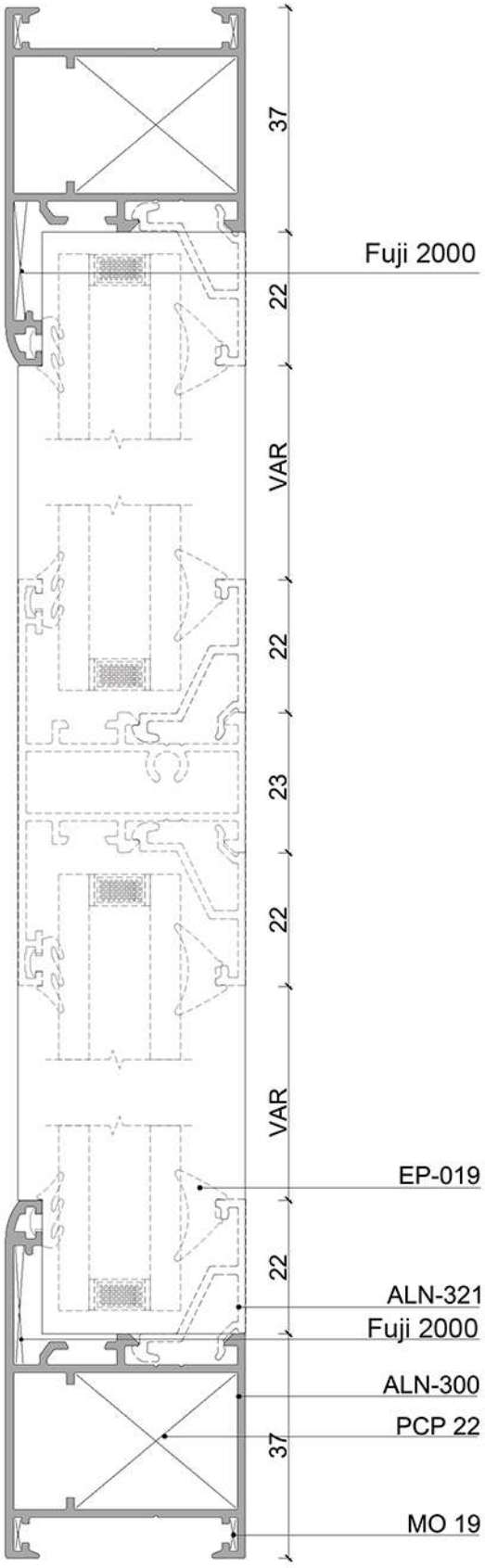


Hinged System 40 Series

Fabrication Detailes

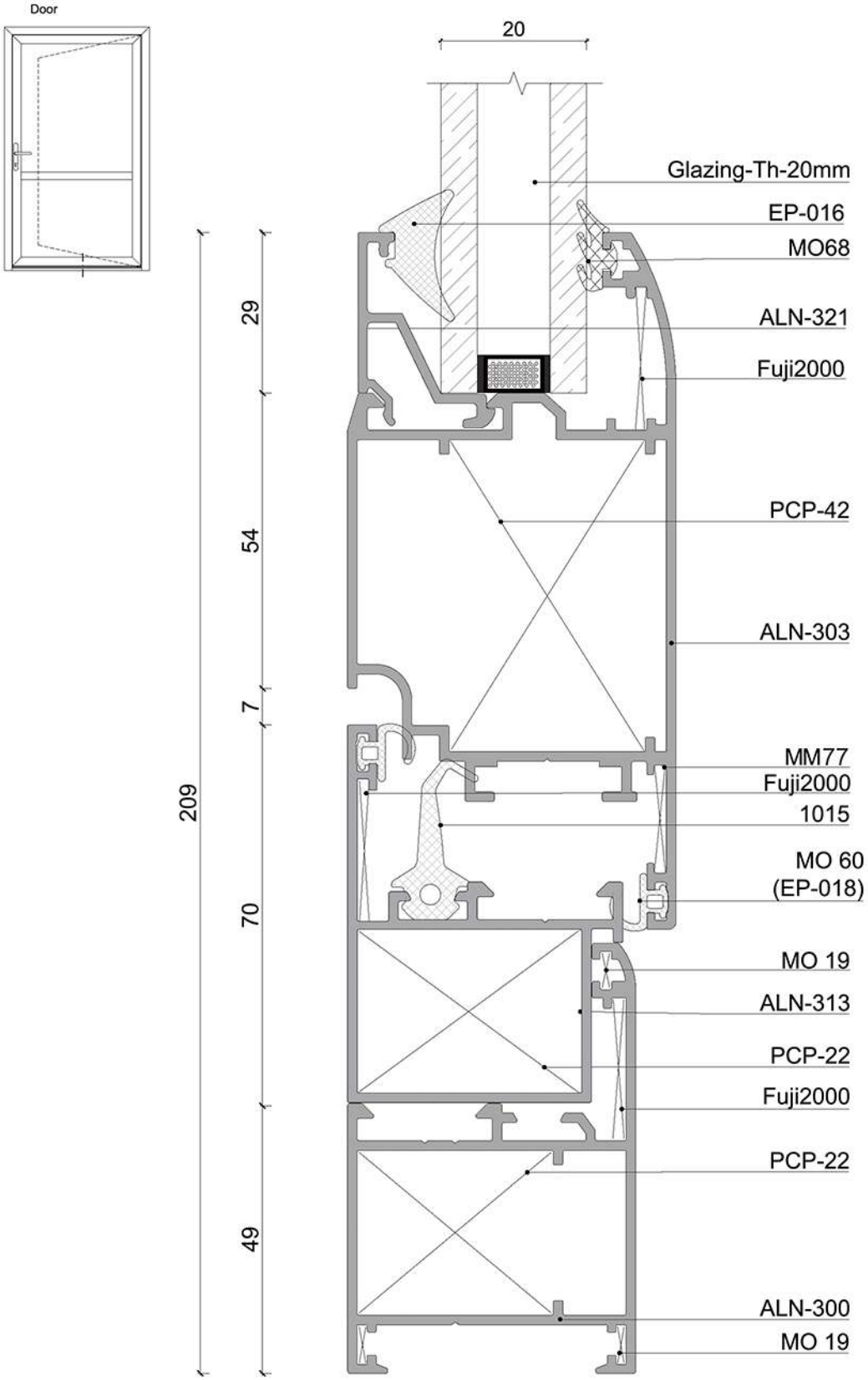






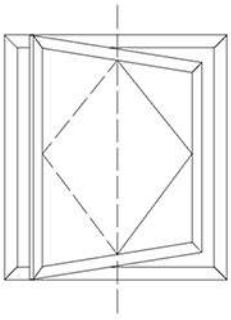
Hinged System 40 Series

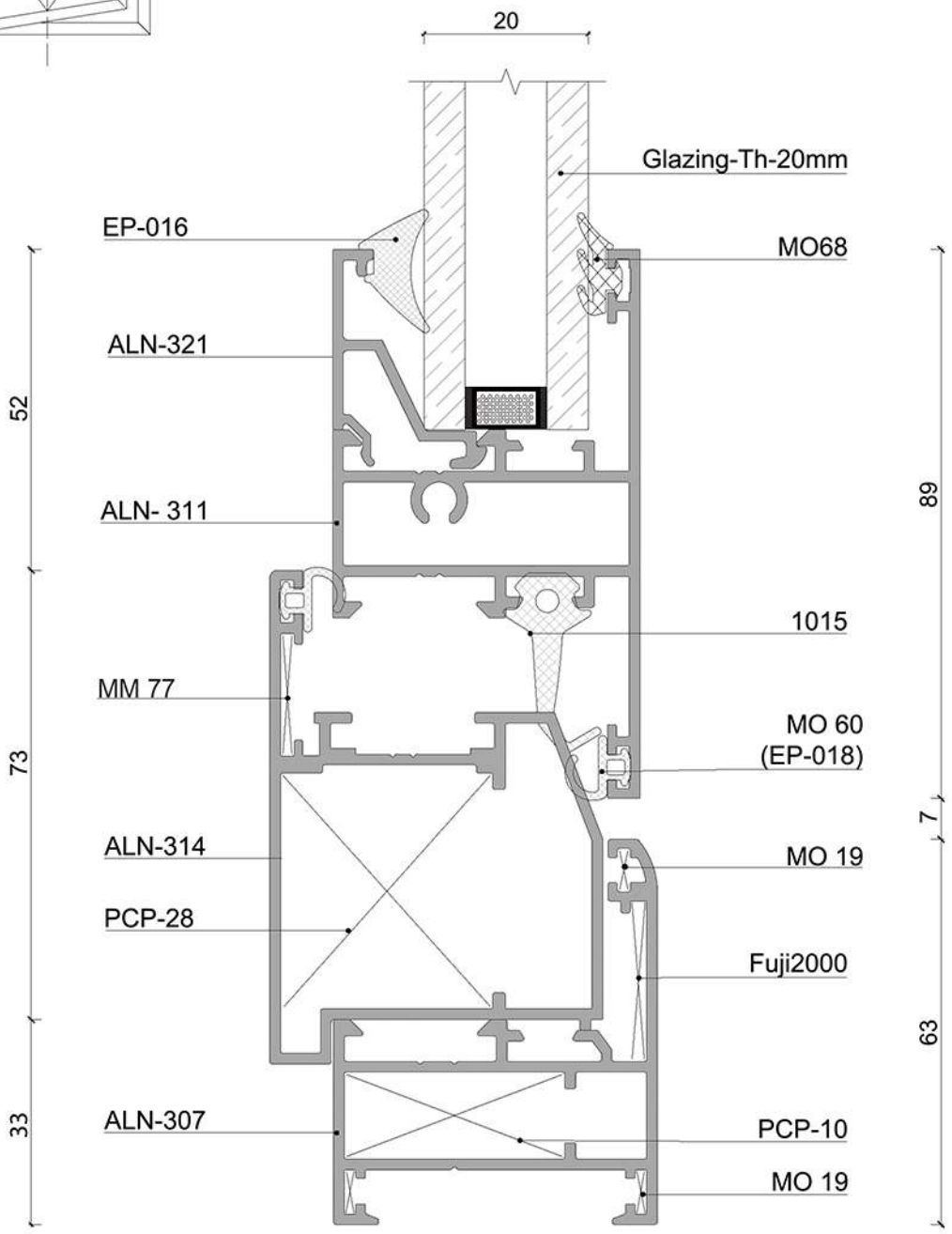
Fabrication Detailes



Hinged System 40 Series

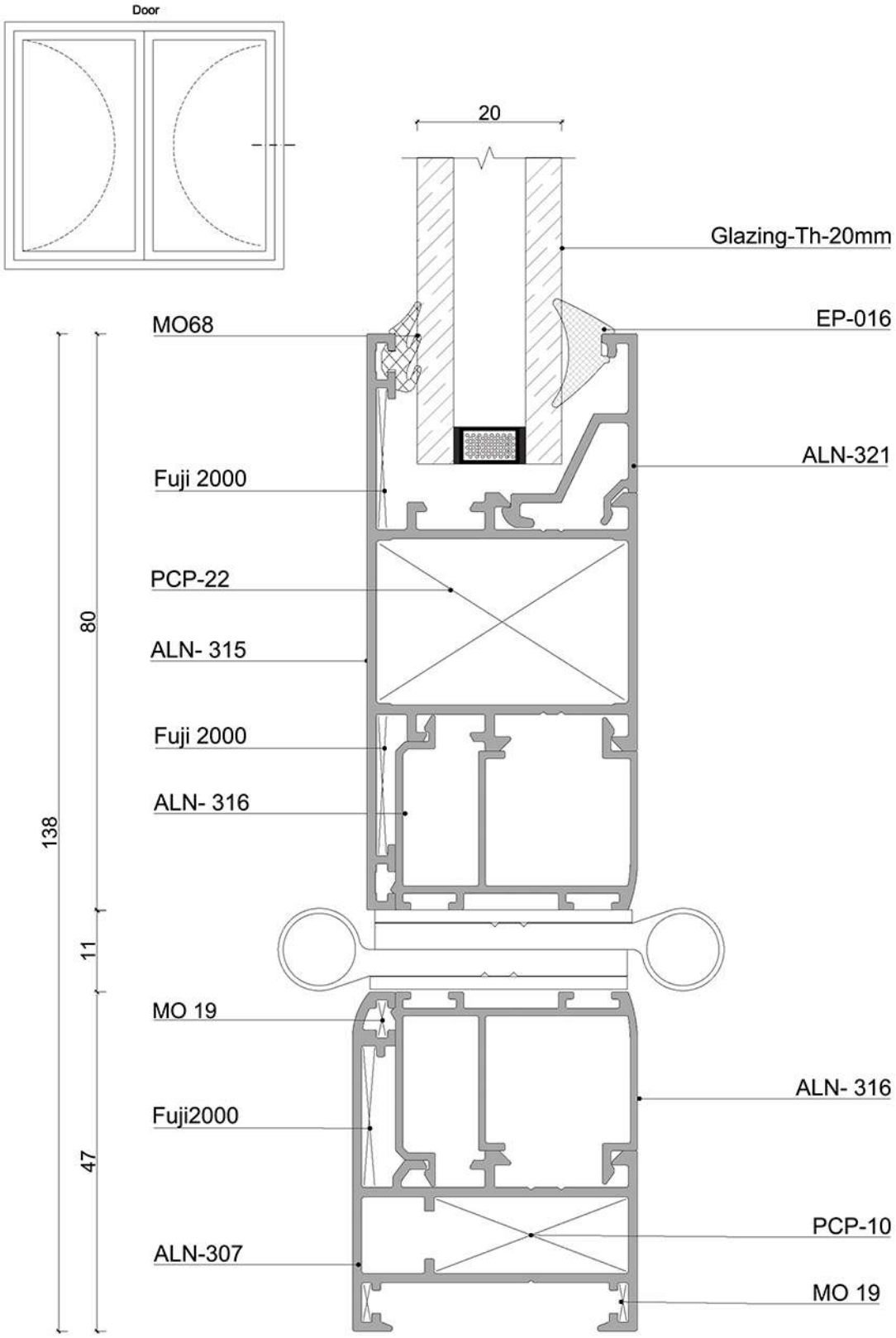
Fabrication Detailes





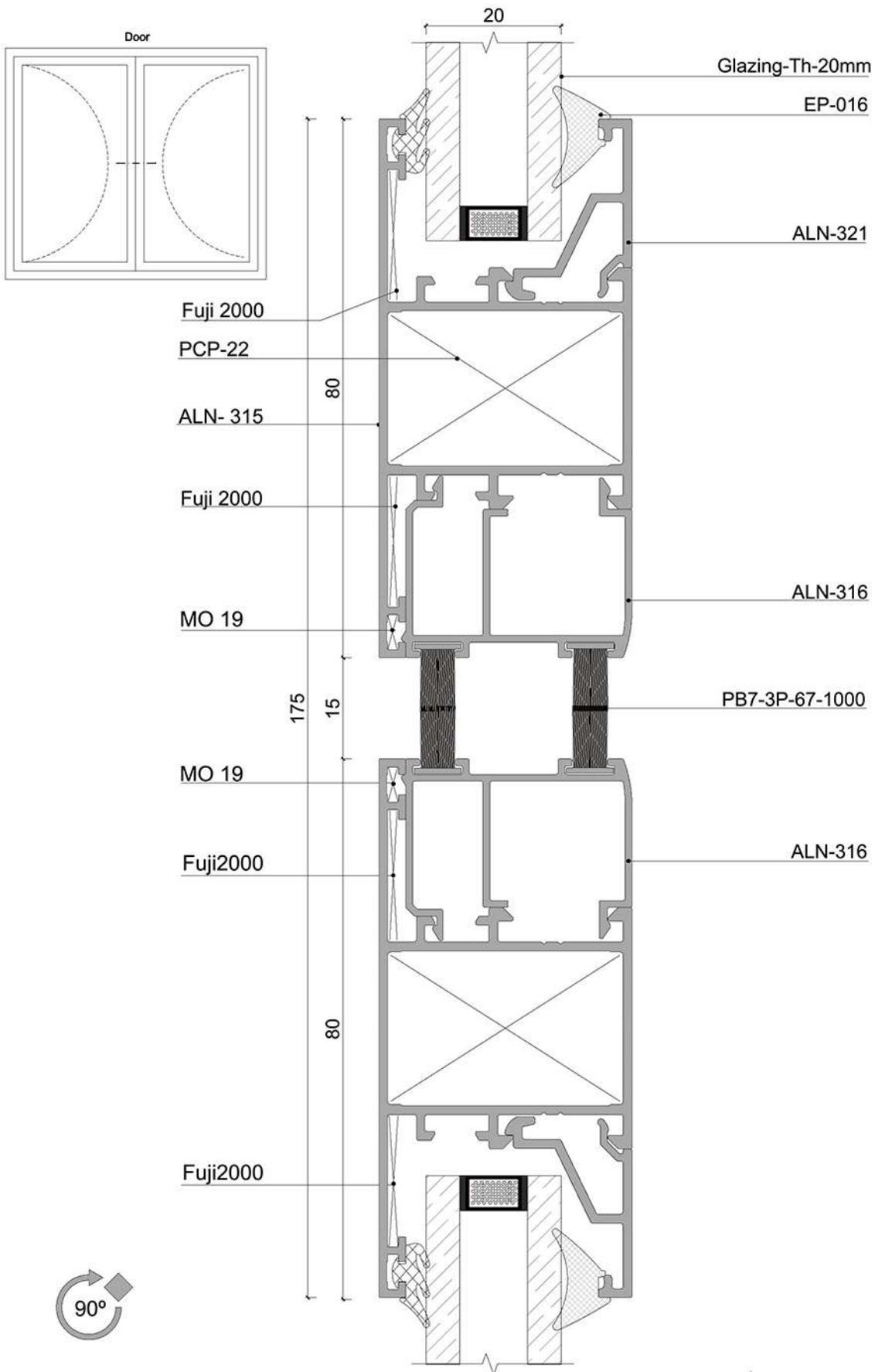
Hinged System 40 Series

Fabrication Detailes



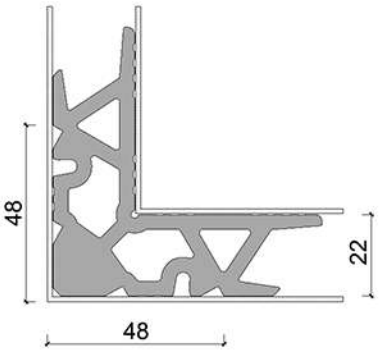
Hinged System 40 Series

Fabrication Detailes

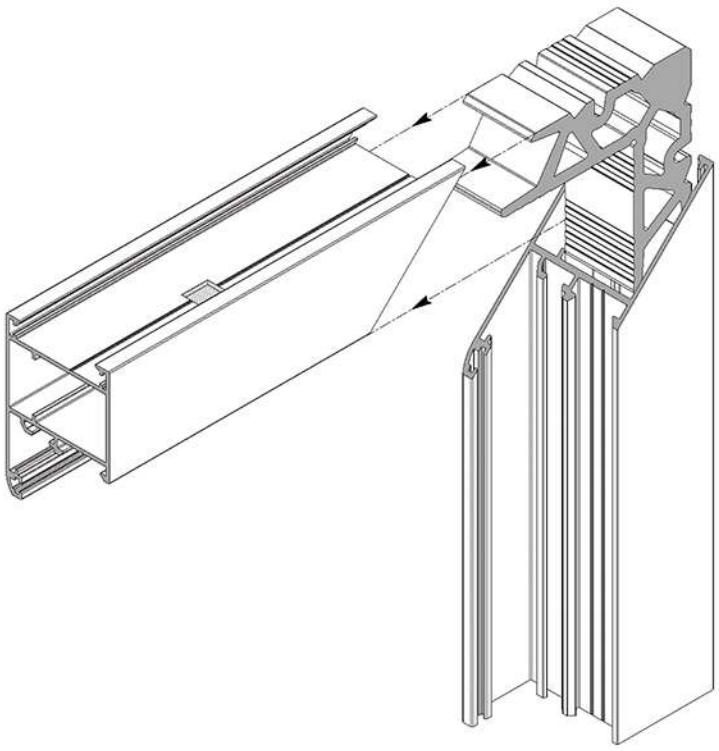


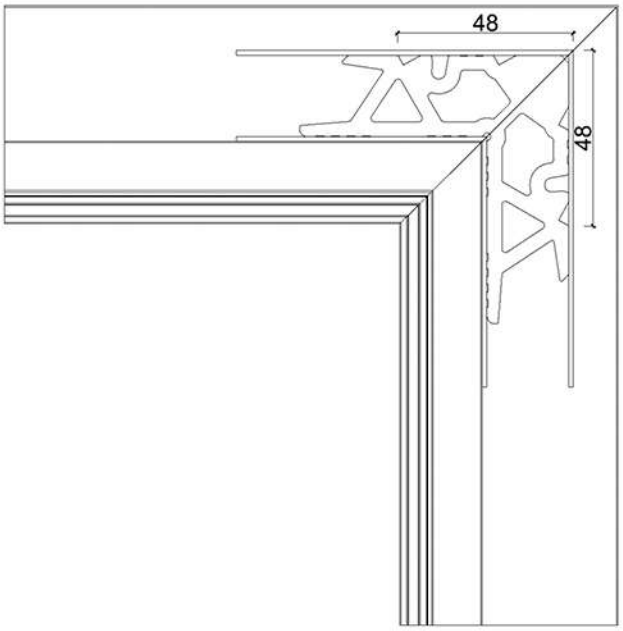
Hinged System 40 Series

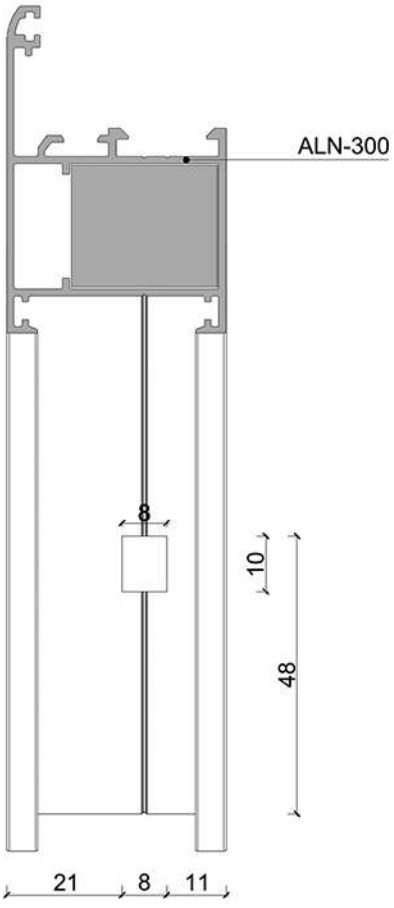
Assembly Drawing



PCP-22 / 26

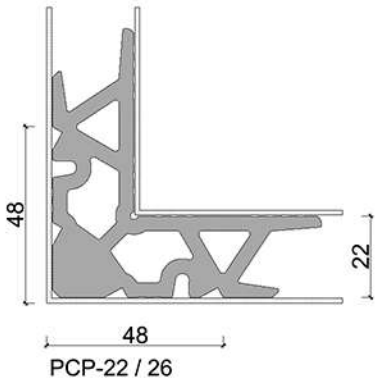




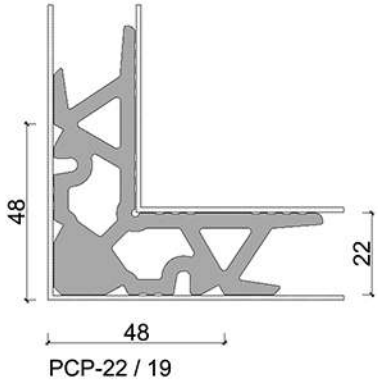


Hinged System 40 Series

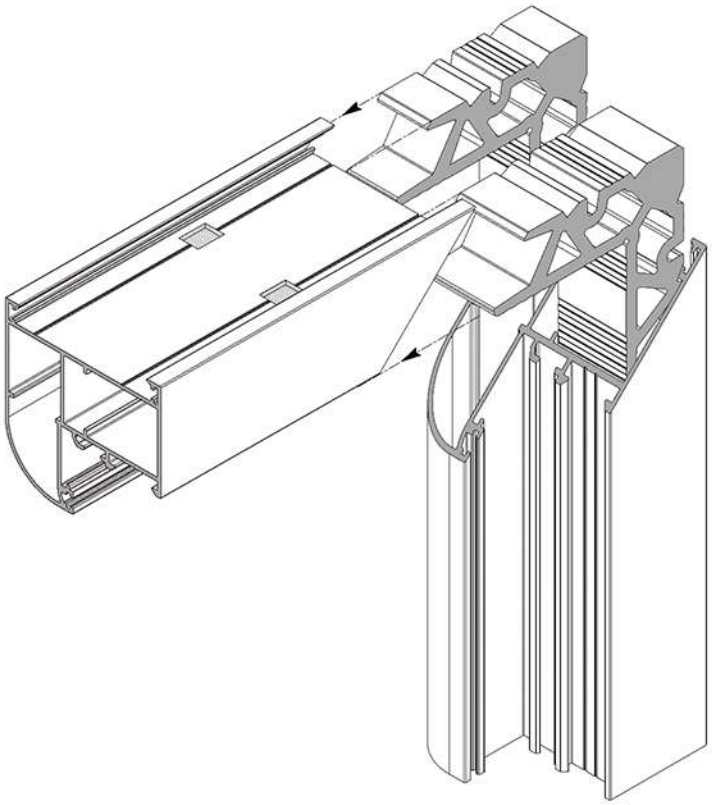
Assembly Drawing

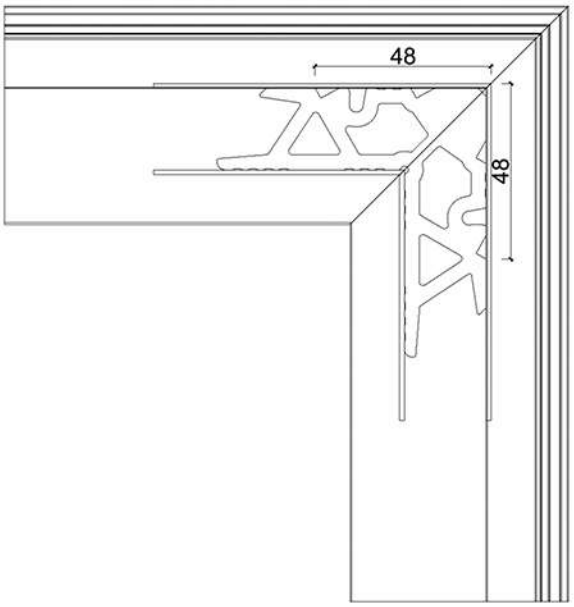


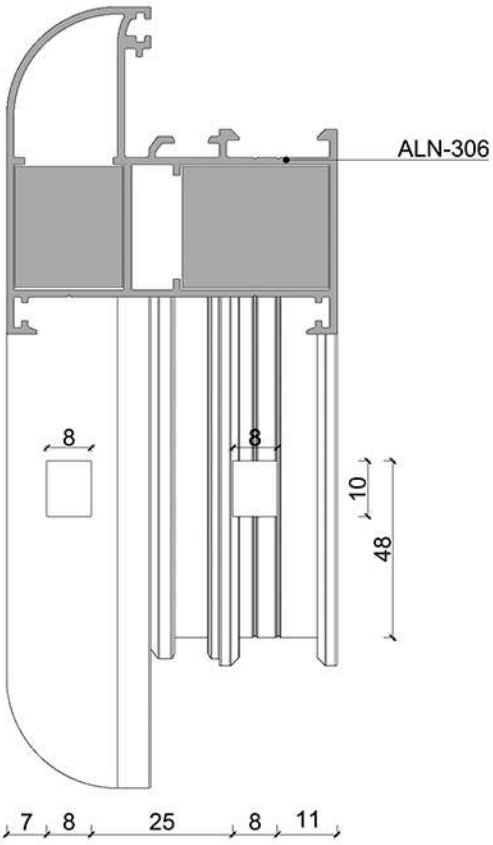
PCP-22 / 26



PCP-22 / 19

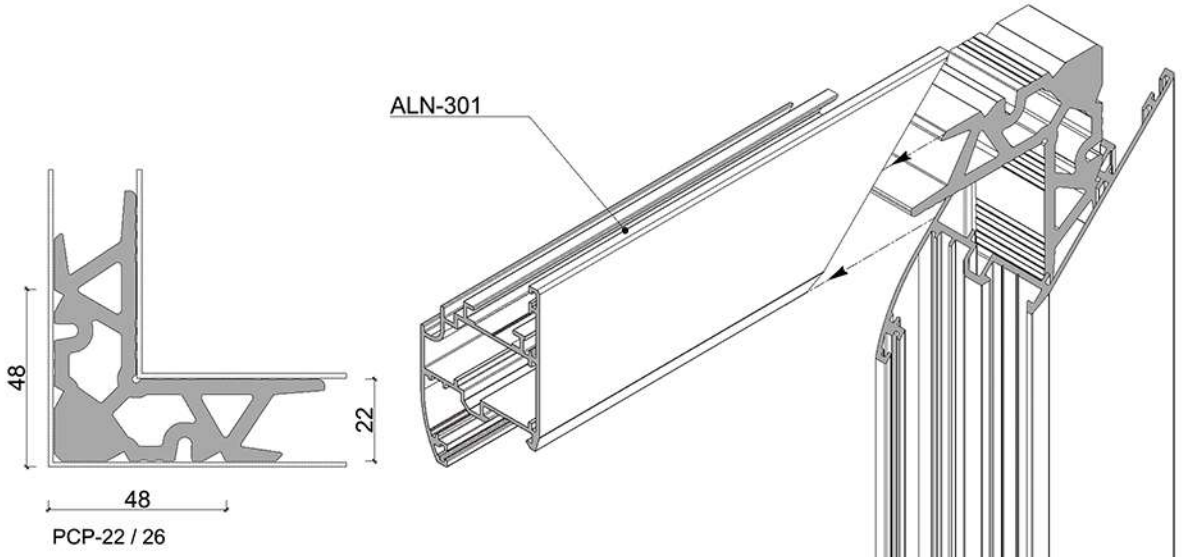


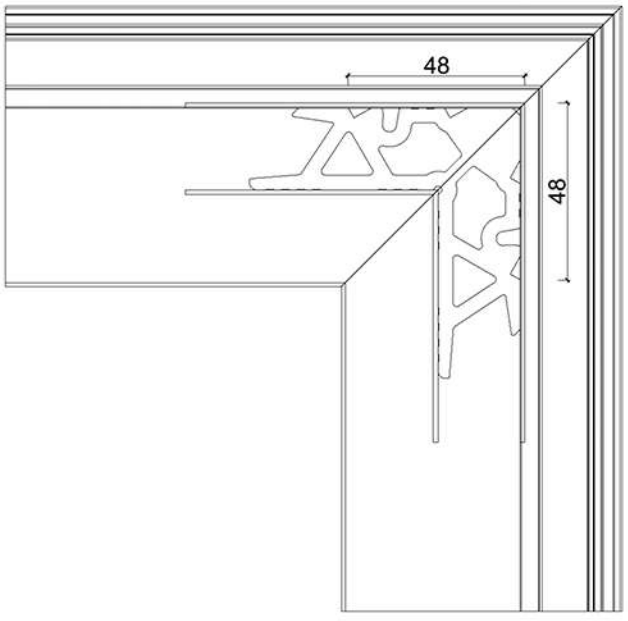


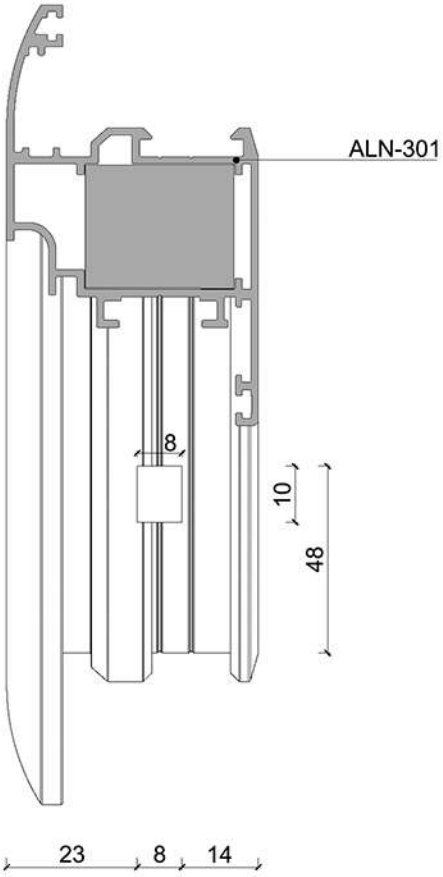


Hinged System 40 Series

Assembly Drawing

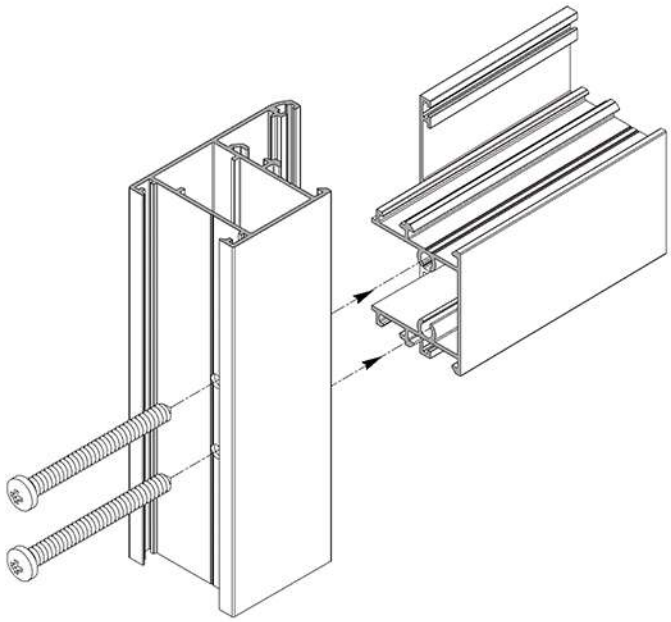


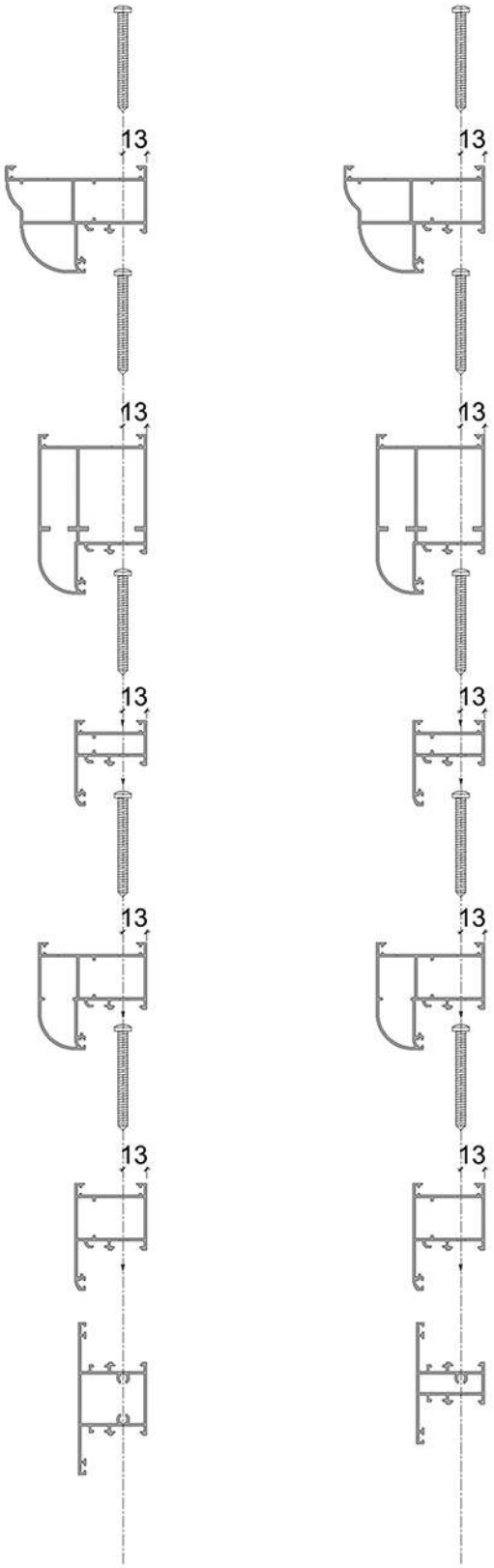




Hinged System 40 Series

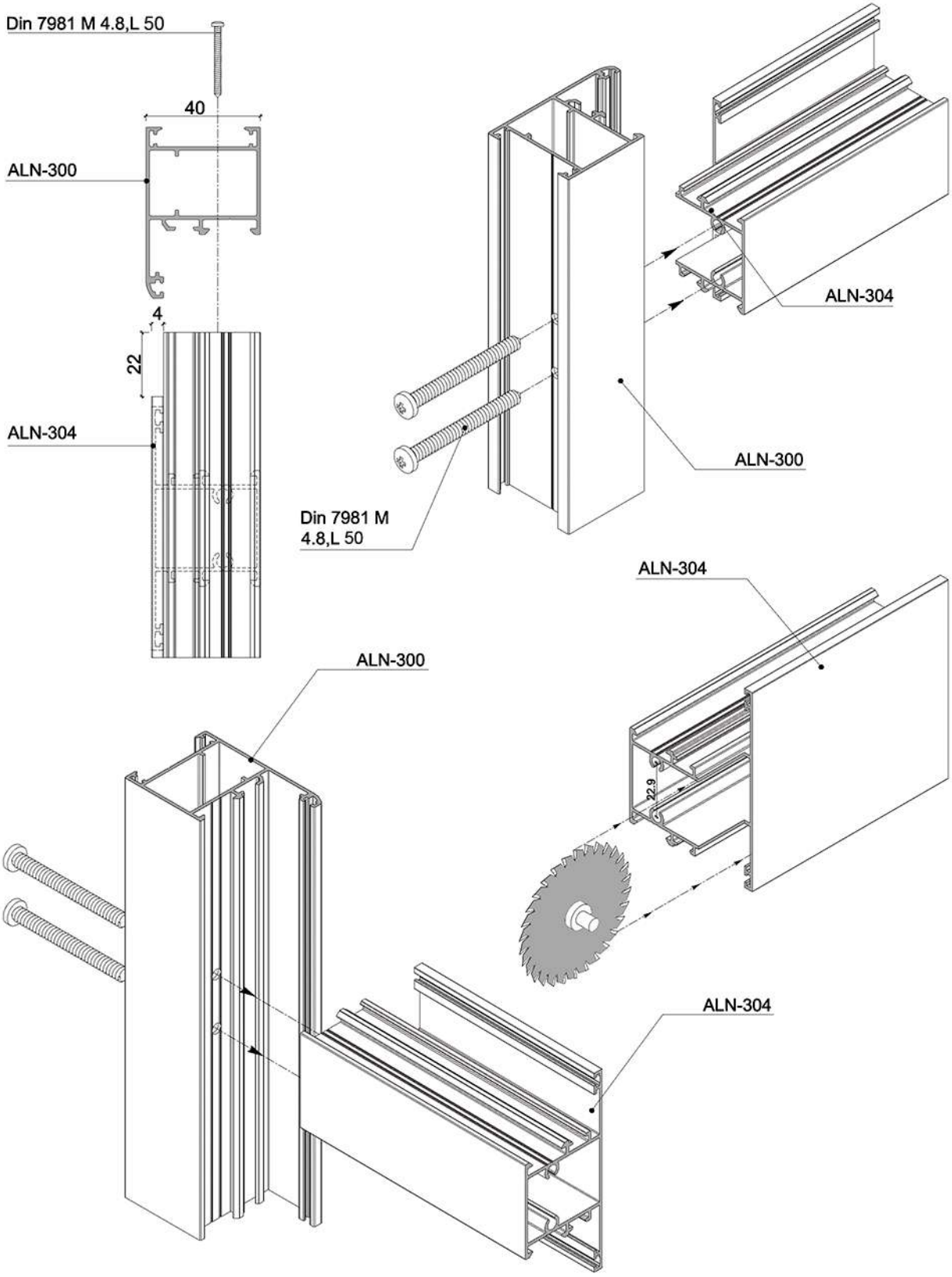
Connection - frame to transom





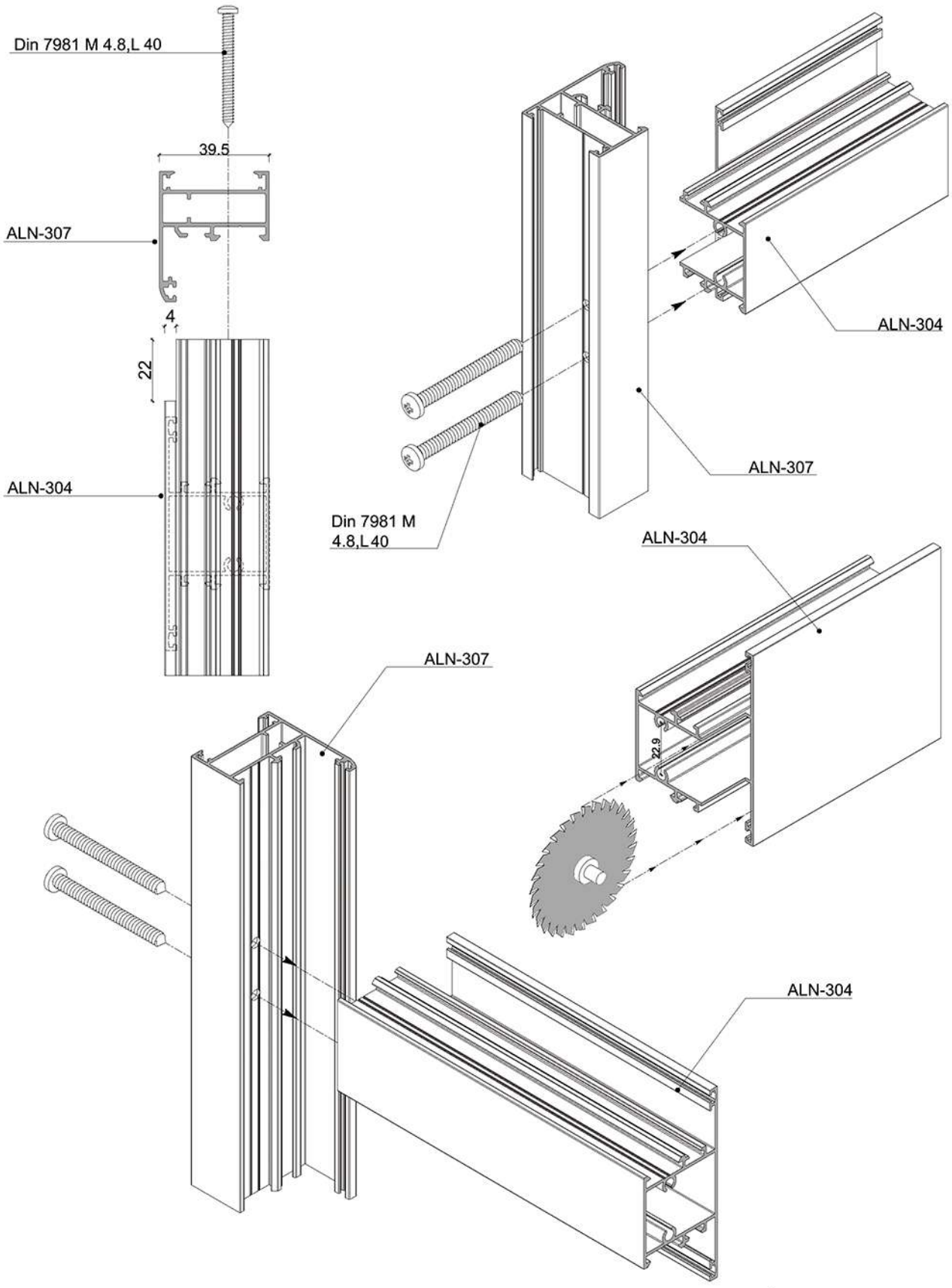
Hinged System 40 Series

Assembly Drawing



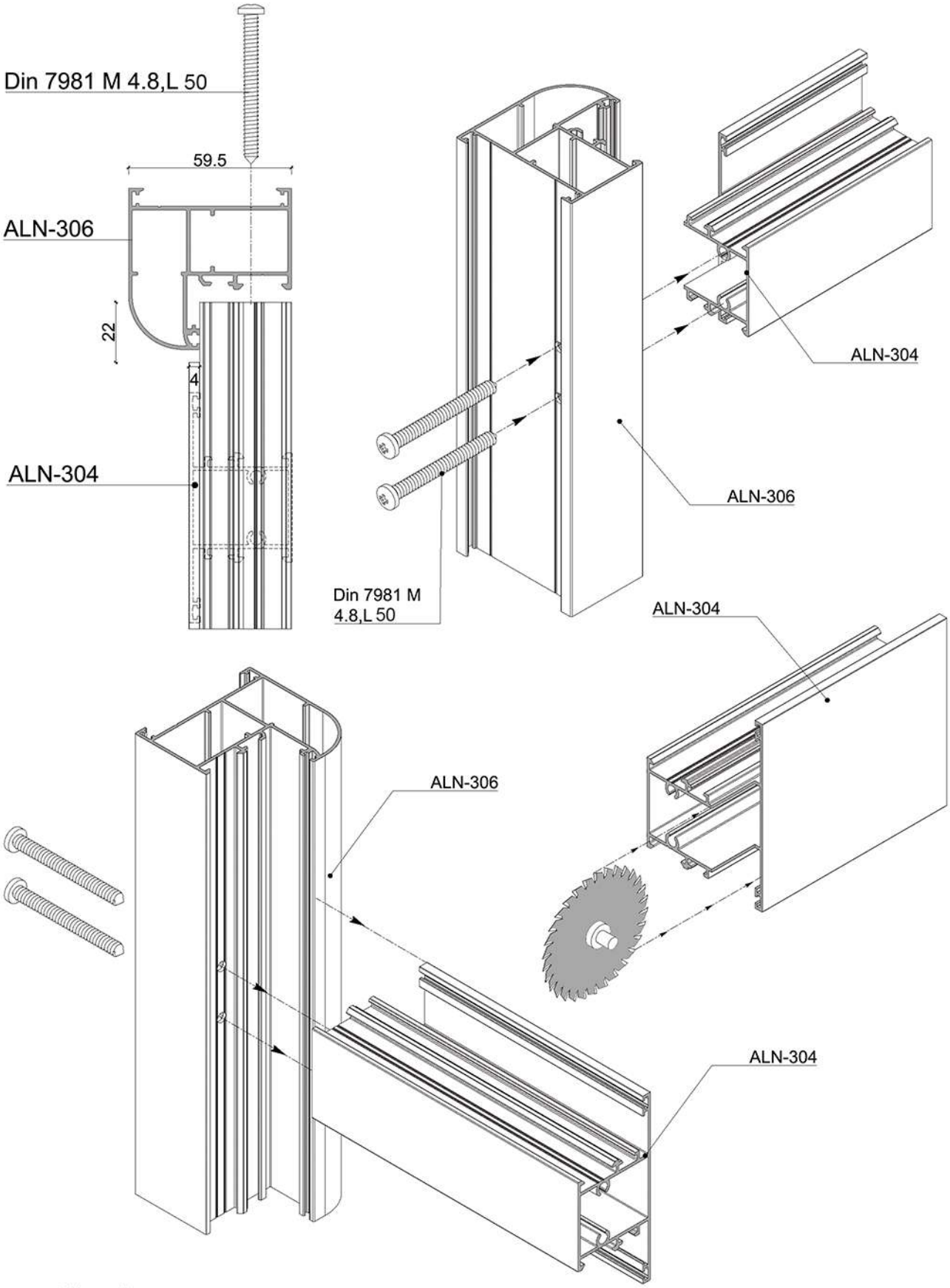
Hinged System 40 Series

Assembly Drawing



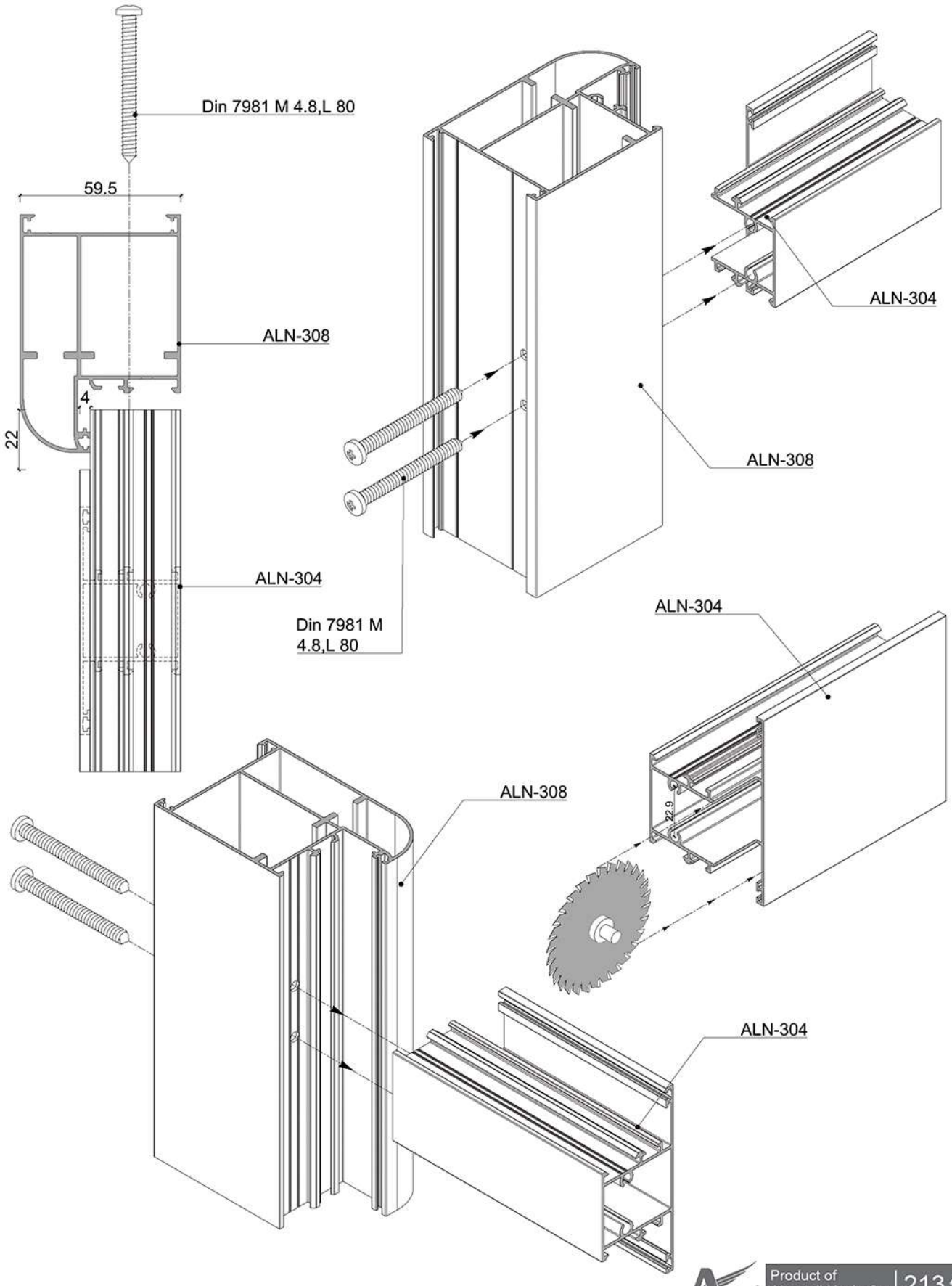
Hinged System 40 Series

Assembly Drawing



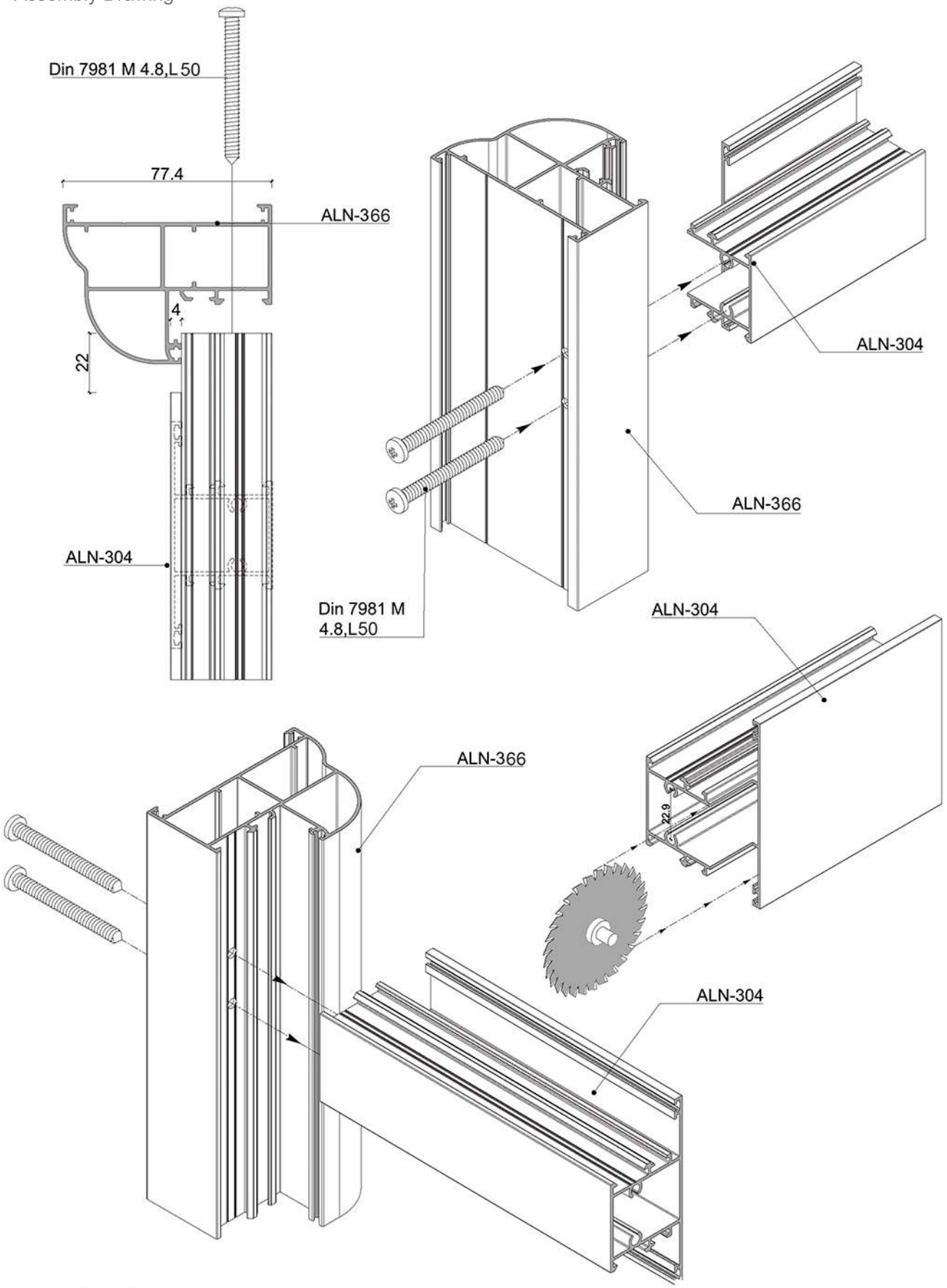
Hinged System 40 Series

Assembly Drawing



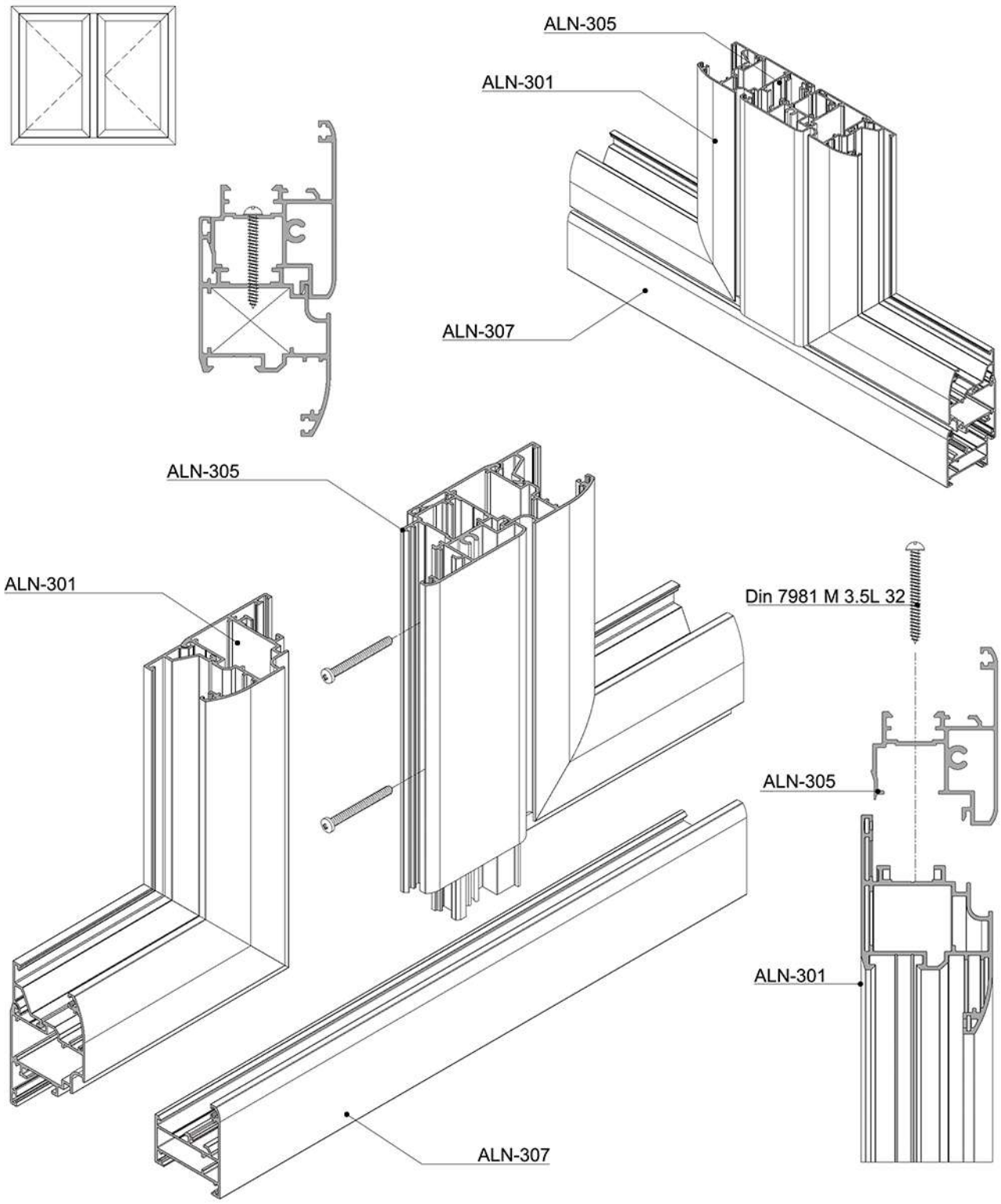
Hinged System 40 Series

Assembly Drawing



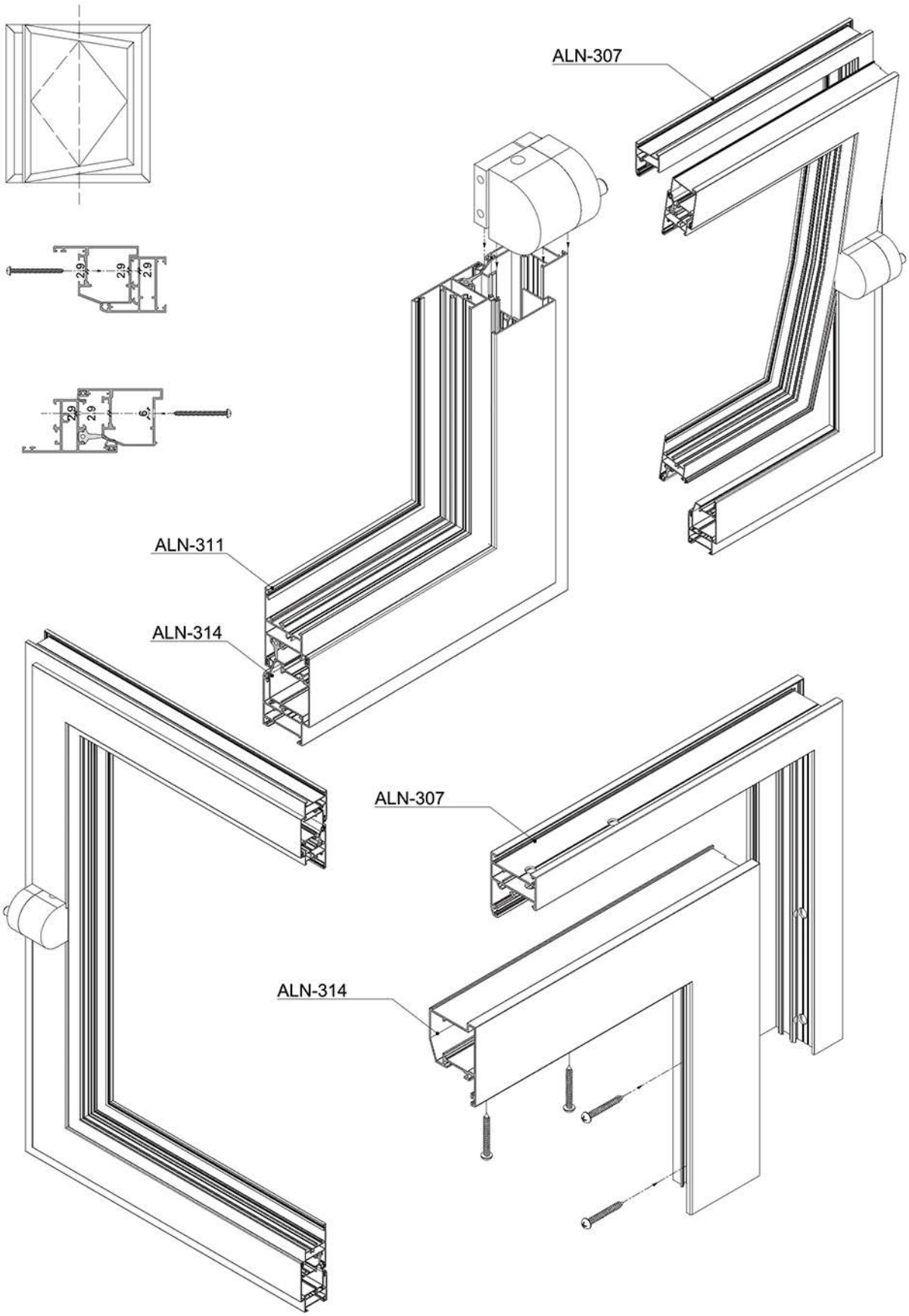
Hinged System 40 Series

Assembly Drawing



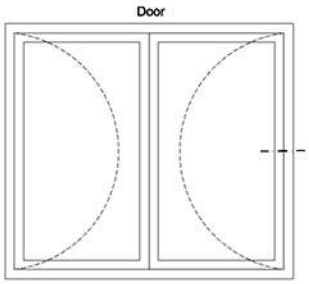
Hinged System 40 Series

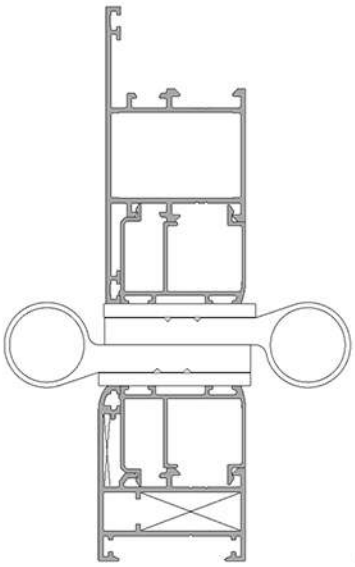
Assembly Drawing

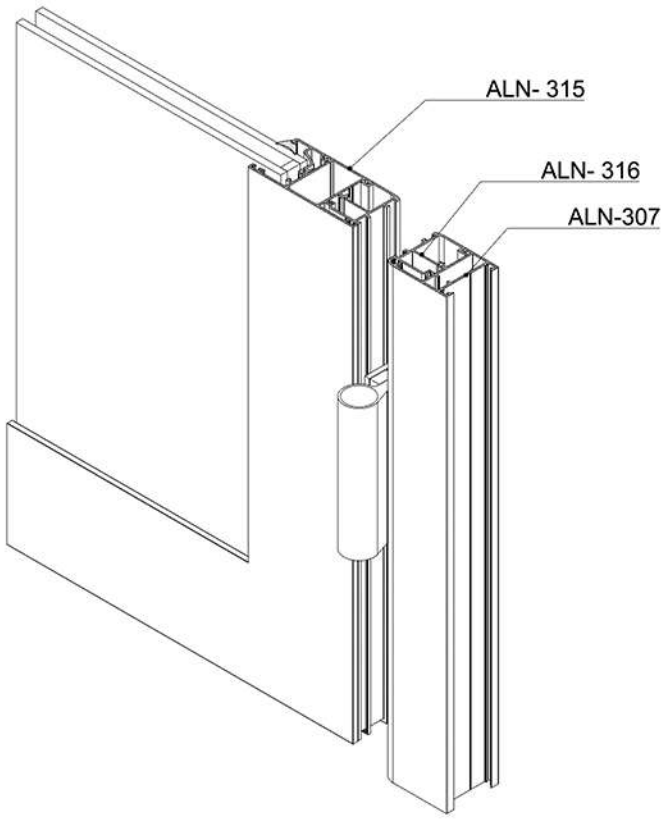


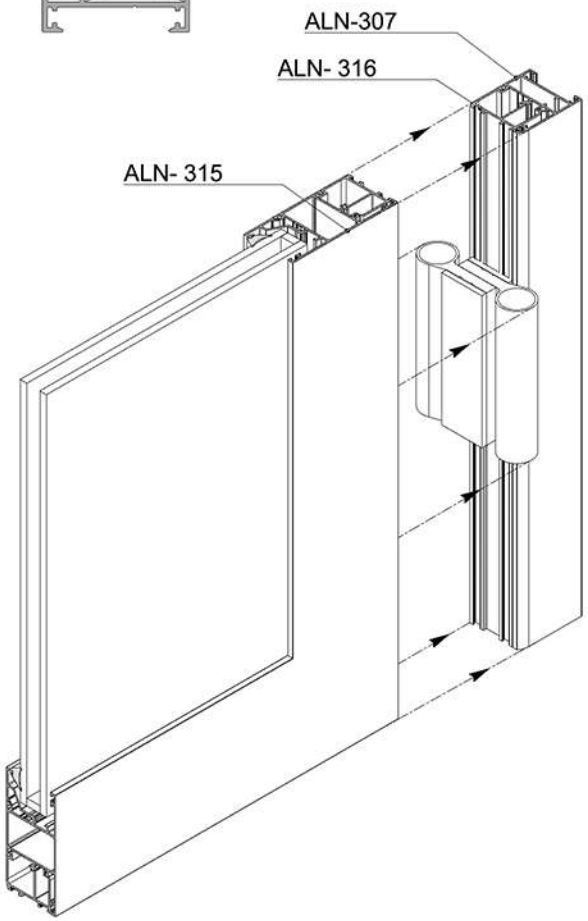
Hinged System 40 Series

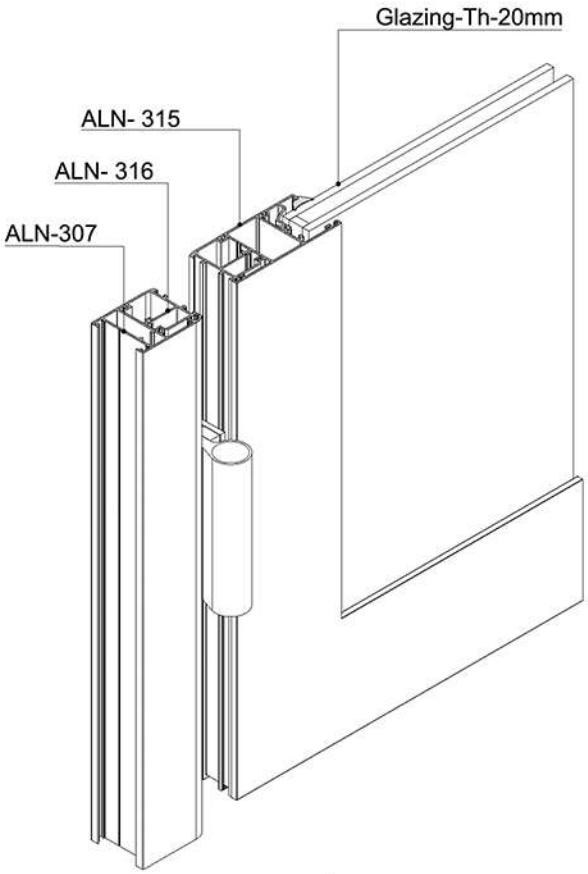
Assembly Drawing





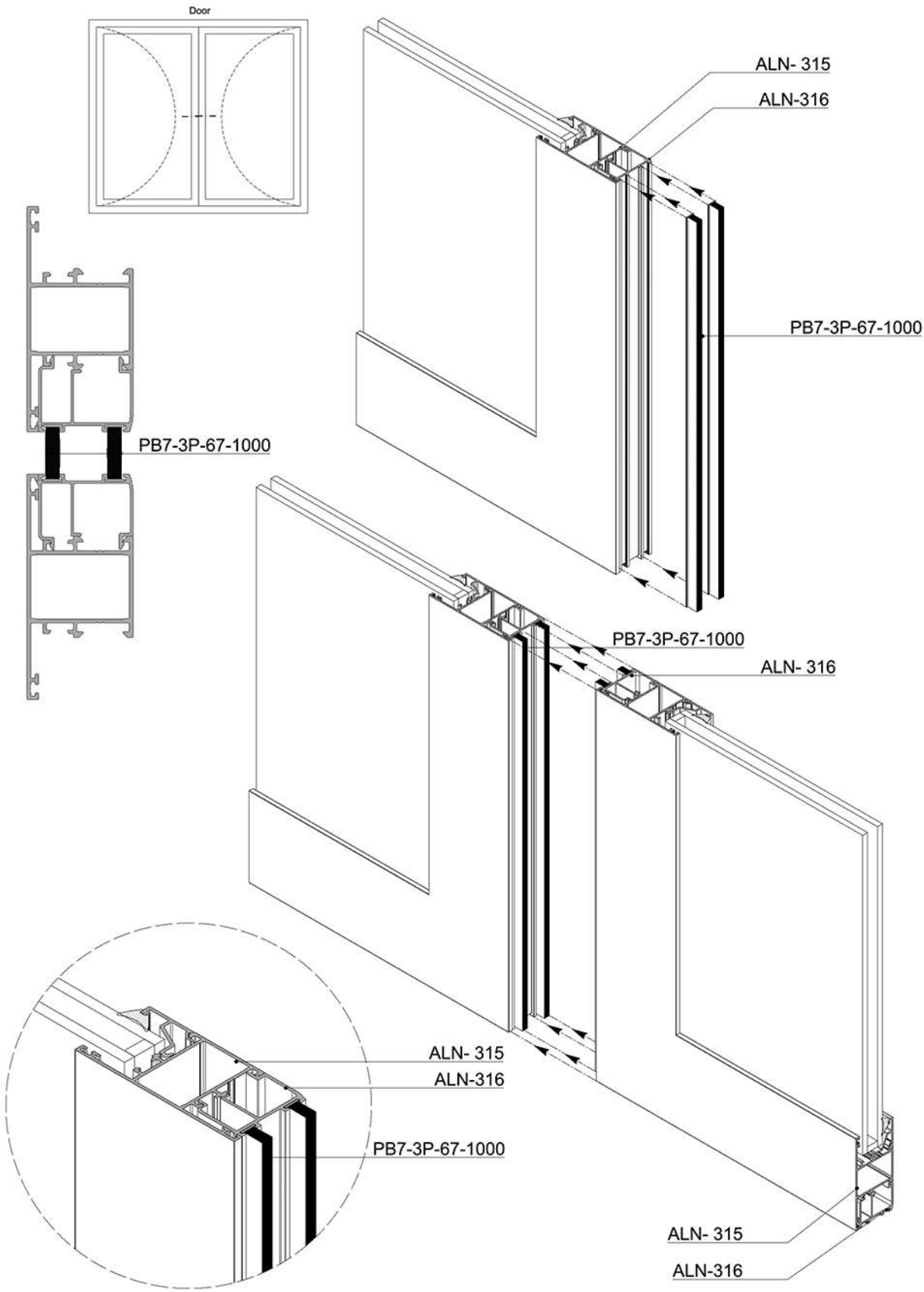






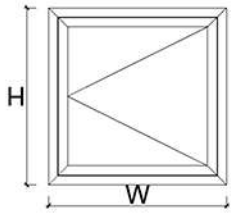
Hinged System 40 Series

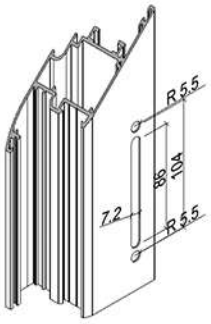
Assembly Drawing

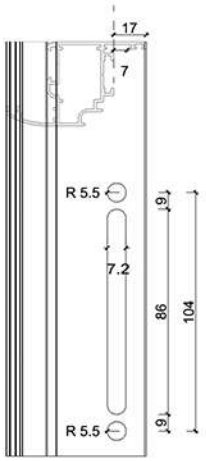


Hinged System 40 Series

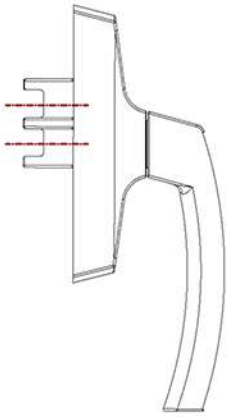
Hardware Installation

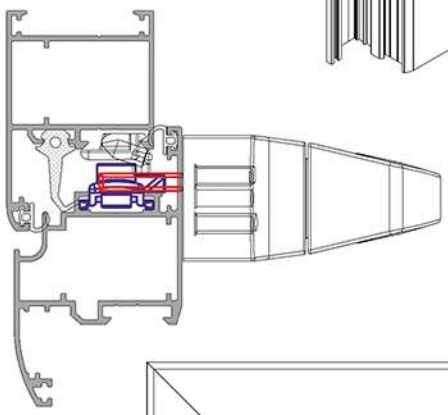








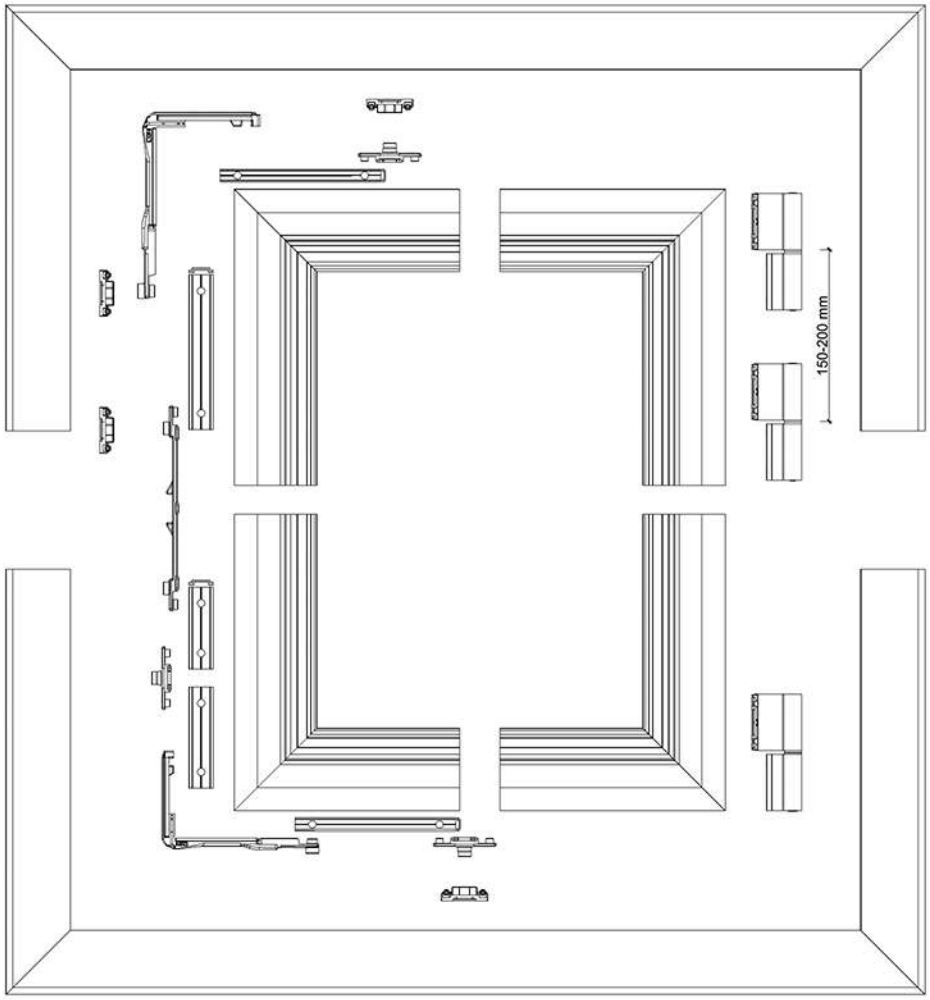




Machining of handle

$1200 \leq H$

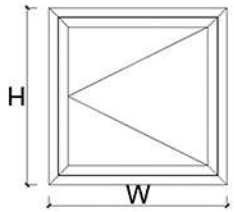
$1200 \leq W$

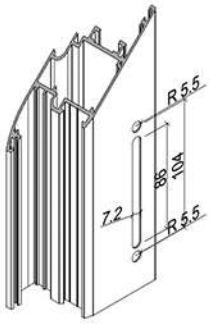


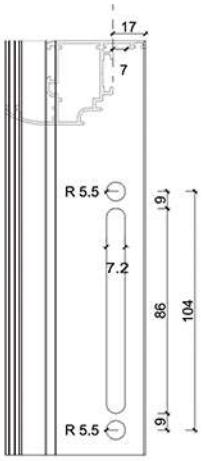
Installation of turn hardware

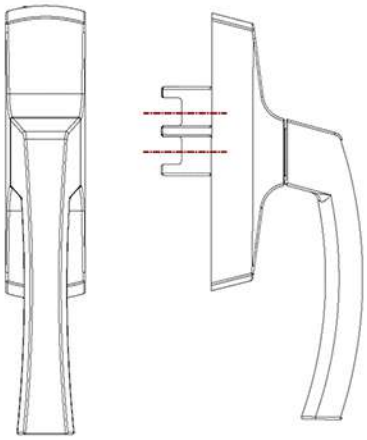
Hinged System 40 Series

Hardware Installation

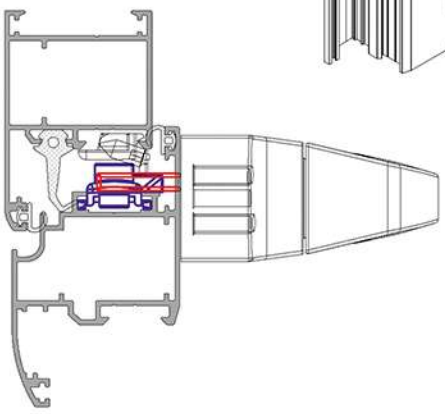




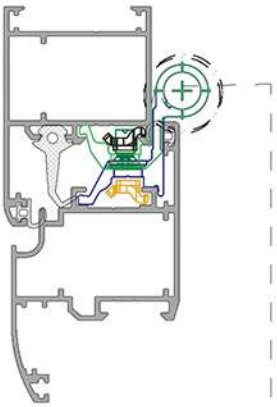


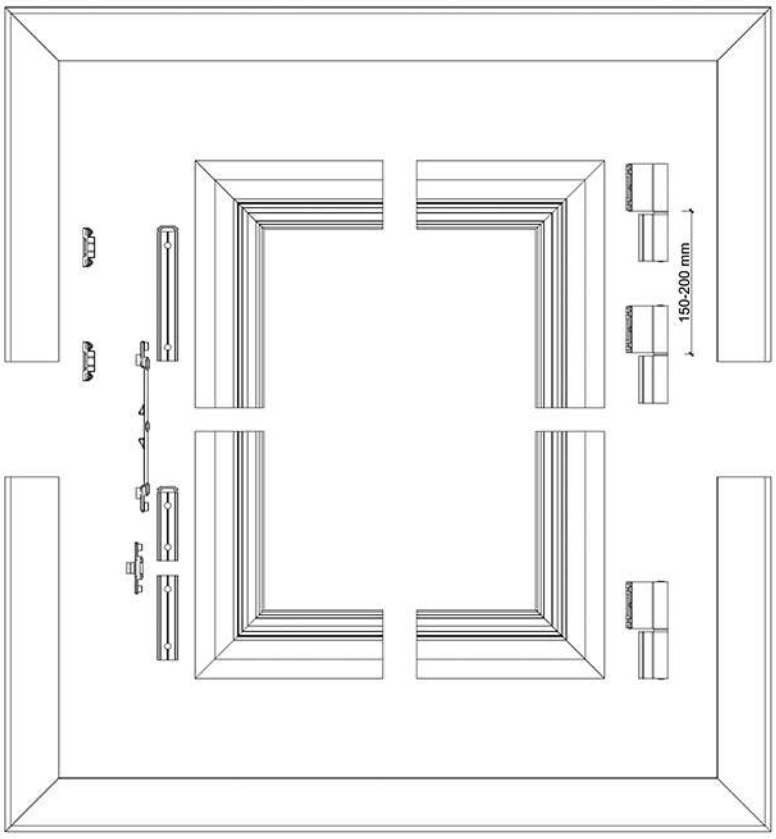


Machining of handle

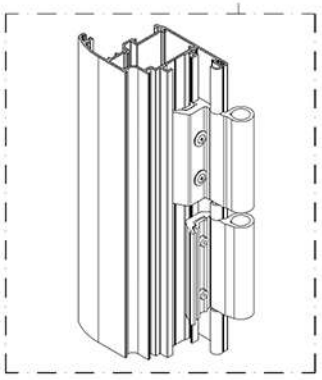


1200 ≥ H
1200 ≥ W



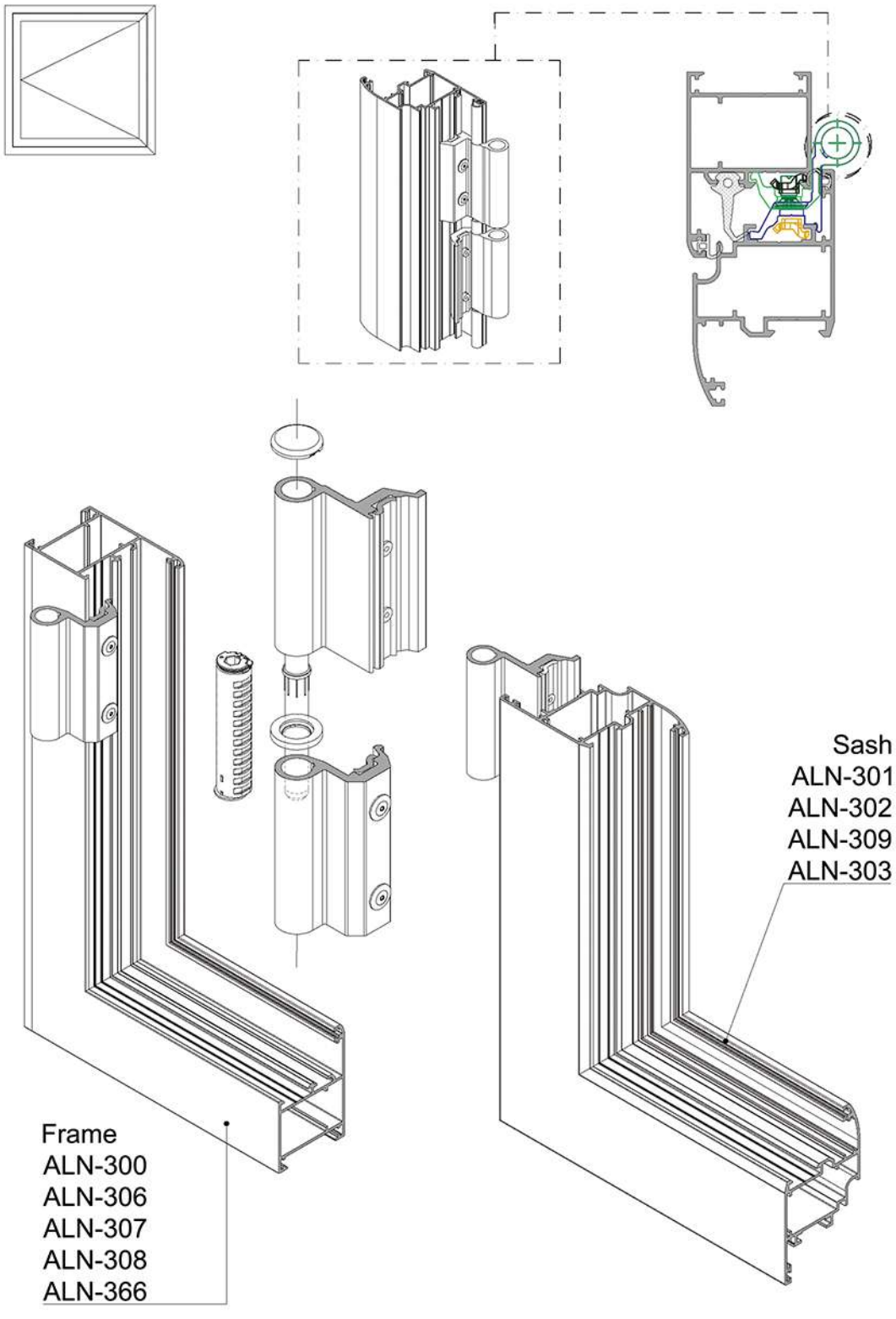


Installation of turn hardware



Hinged System 40 Series

Hardware Installation



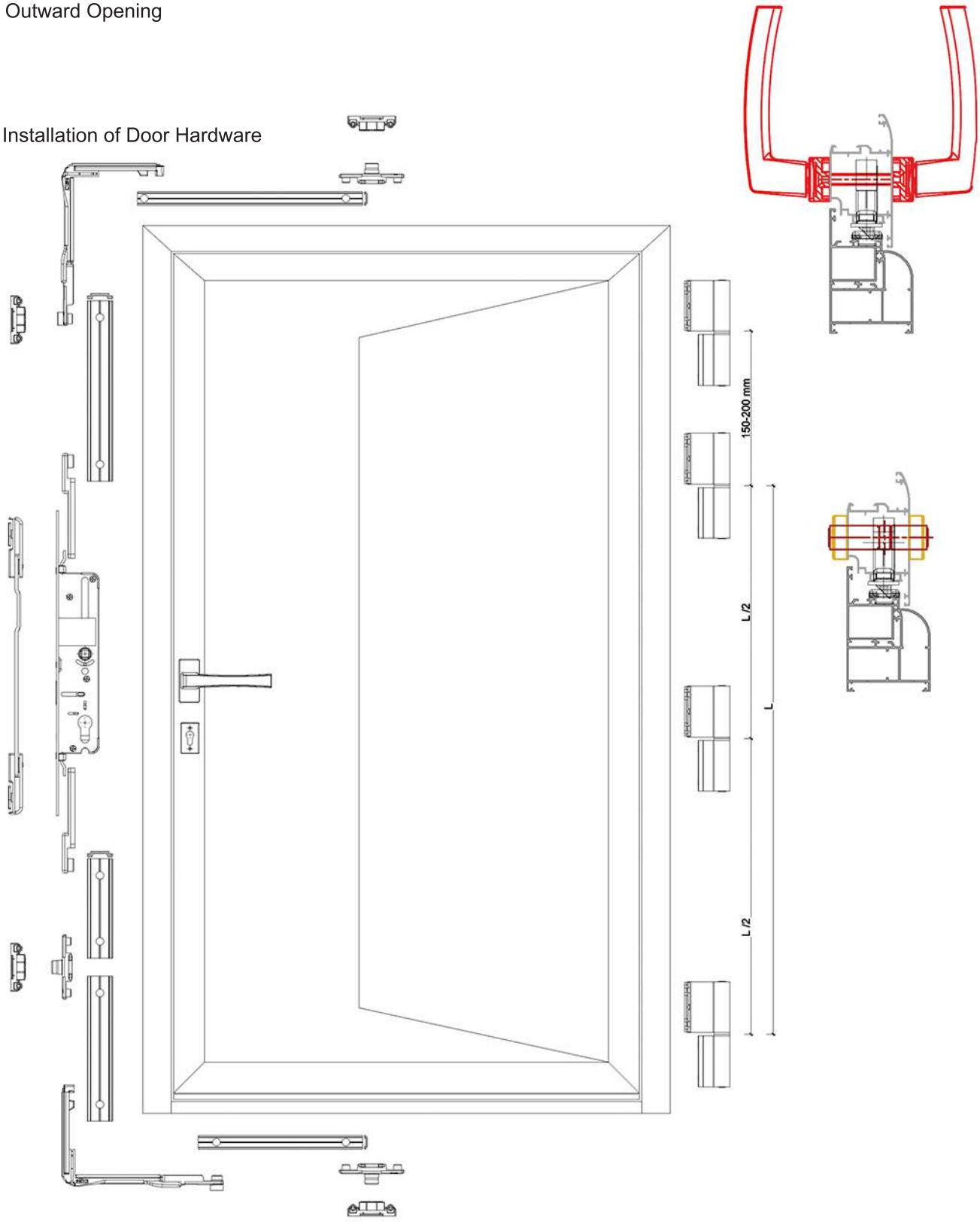
Installation of Window hinges

Hinged System 40 Series

Hardware Installation

Outward Opening

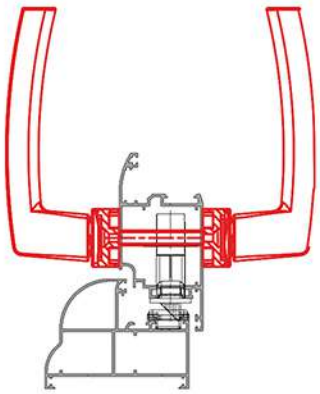
Installation of Door Hardware



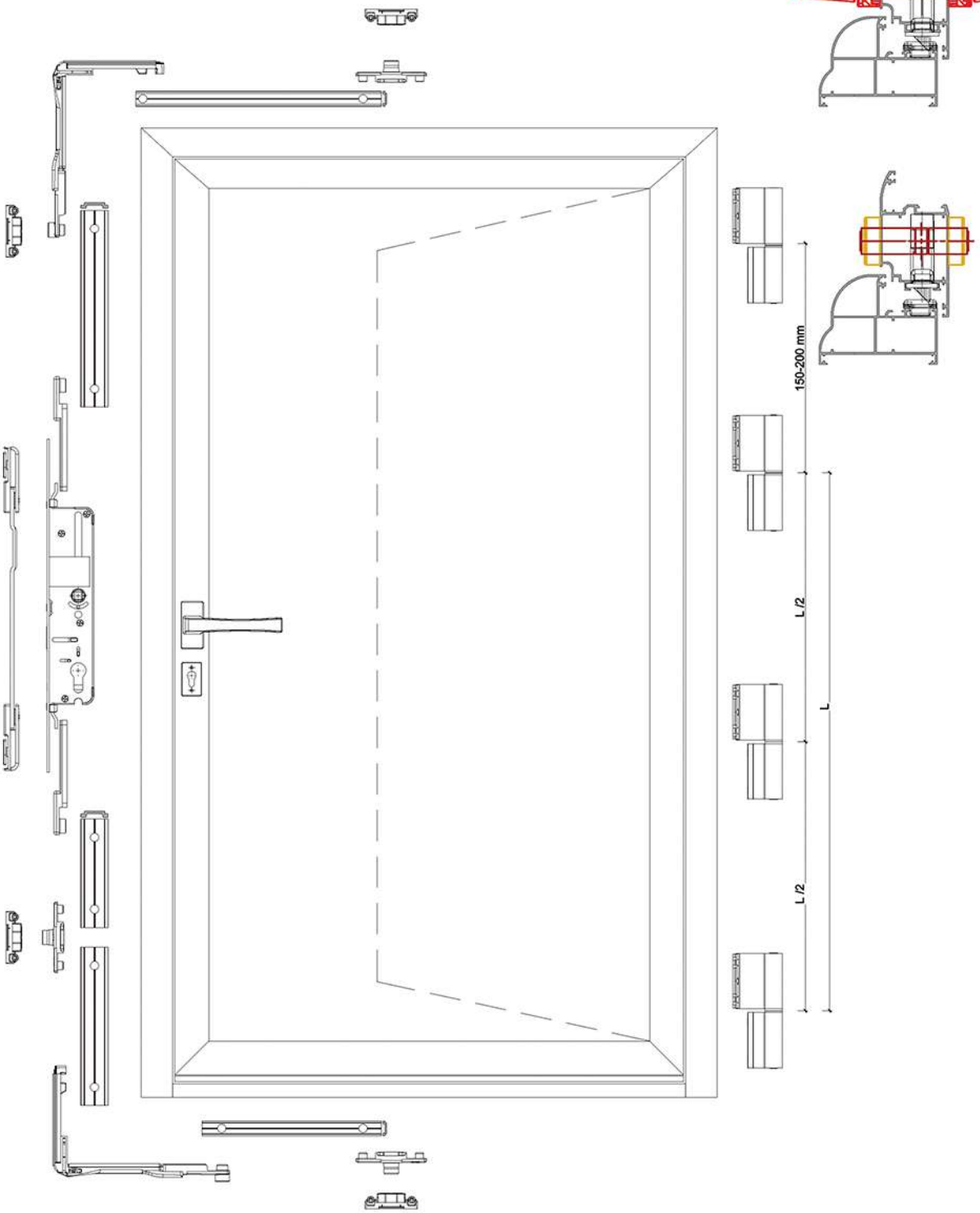
Hinged System 40 Series

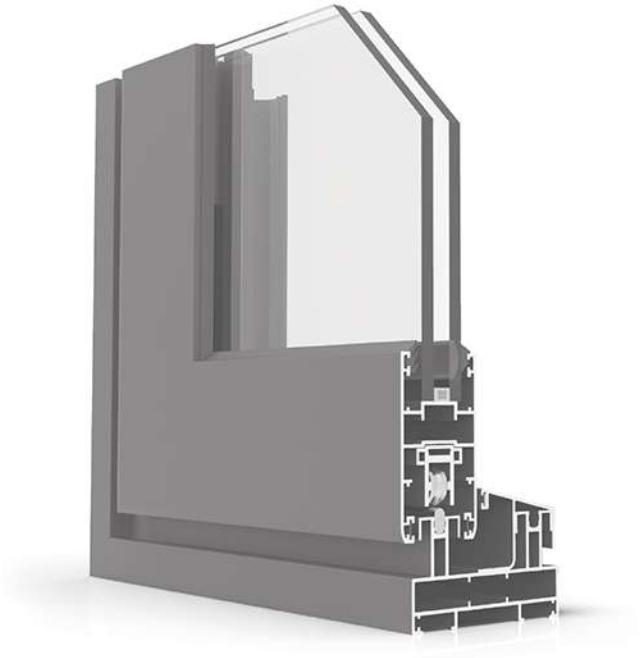
Hardware Installation

Inward Opening



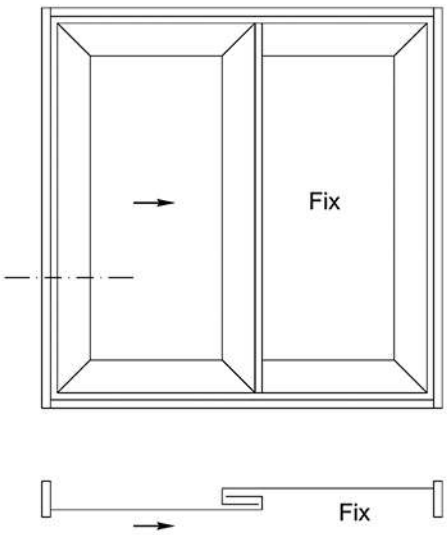
Installation of Door Hardware

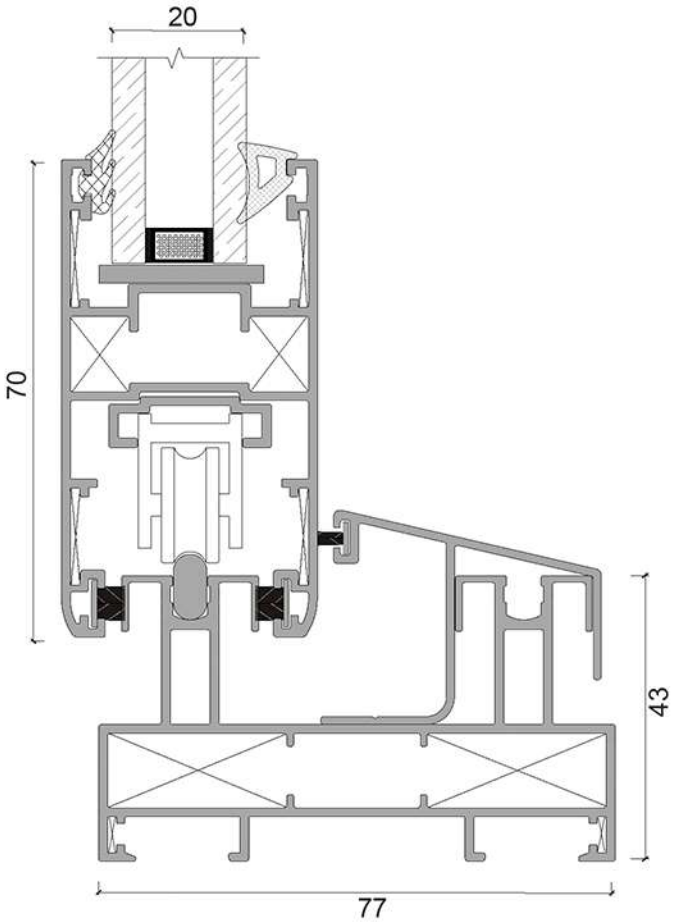




Slide System 77 Series

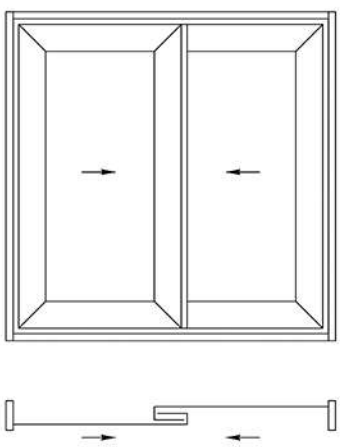
. Profile width:	77 - 110 mm
. Vent width:	38 mm
. Wall thickness:	1.3 - 1.4 mm
. Rubber description:	EPDM DIN 7863
. Glass thickness:	4 - 24 m
. Aluminum alloy extrusion:	EN AW 6063 T5
. Safety drainage system	
. Various typologies	

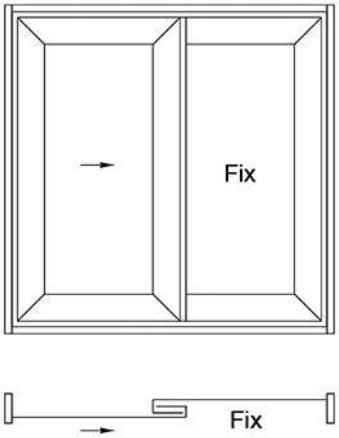


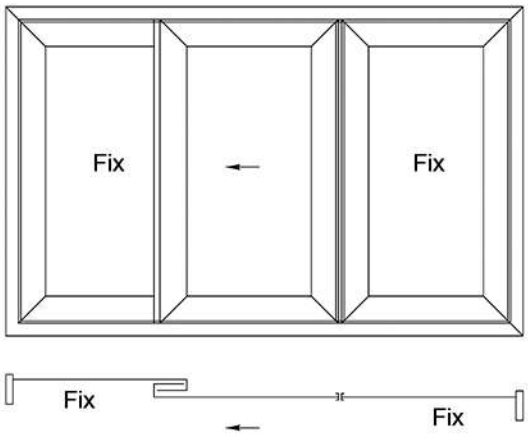


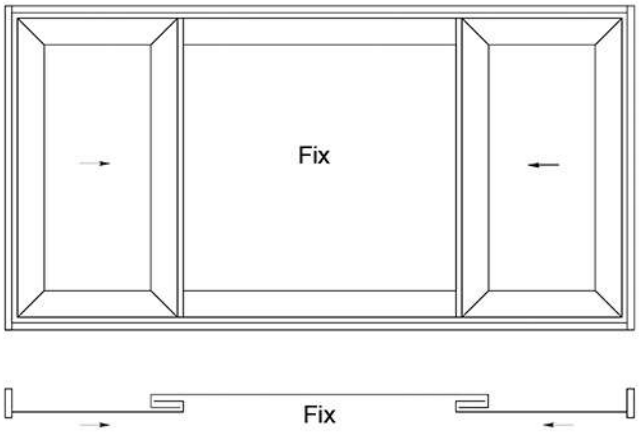
Slide System 77 Series

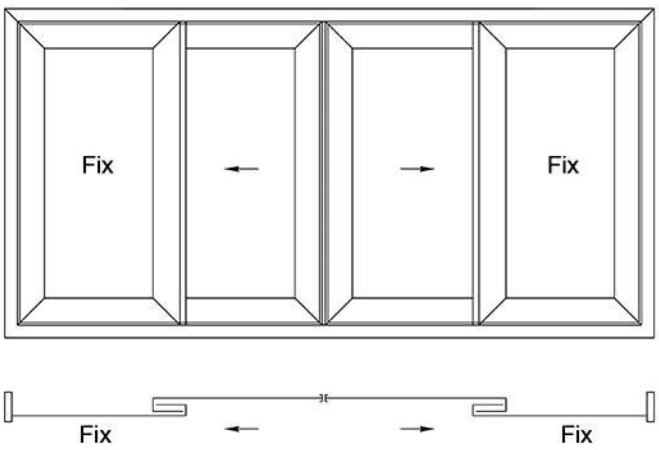
Typologies







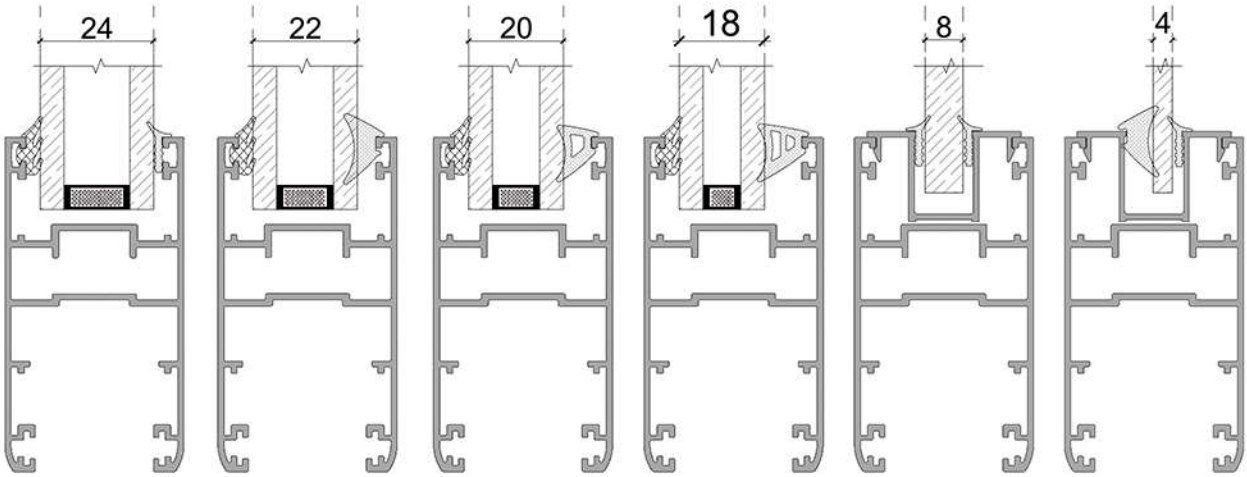




Slide System 77 Series

Glazing Table

ALN-356



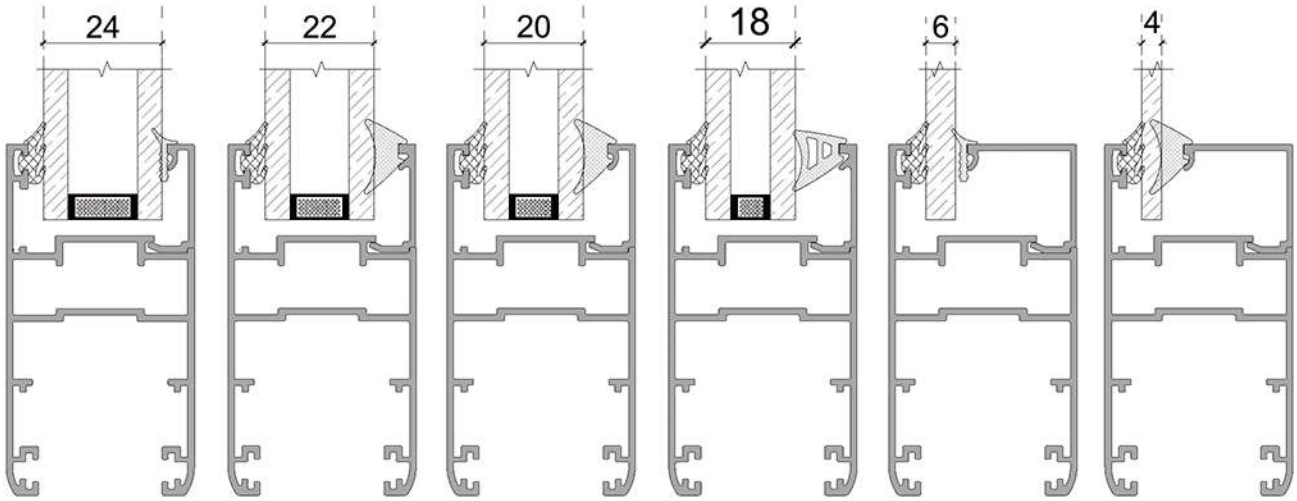
Glazing Thickness	Gasket Inside	Gasket Outside
18 mm	7.5 EP-021	MO68
20 mm	5.5 EP-019	MO68
22 mm	4.5 EP-016	MO68
24 mm	1.9 EP-015	MO68

Glazing Thickness	Gasket Inside	Gasket Outside	Glazing Bead
8 mm	1.9 EP-015	1.9 EP-015	ALN-362
4 mm	1.9 EP-015	4.5 EP-016	ALN-362

Slide System 77 Series

Glazing Table

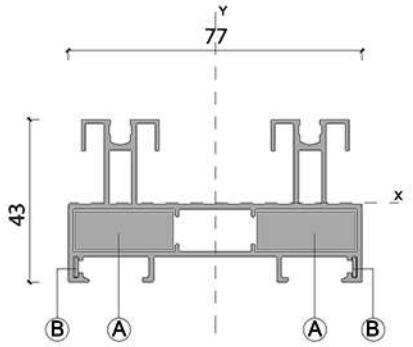
ALN-355



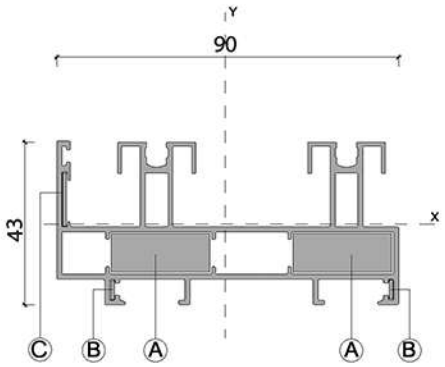
Glazing Thickness	Gasket Inside	Gasket Outside	Glazing Bead
4 mm	4.5 EP-016	MO68	ALN-463
6 mm	1.9 EP-015	MO68	ALN-463
18 mm	7.5 EP-019	MO68	ALN-461
20 mm	4.5 EP-016	MO68	ALN-460
22 mm	4.5 EP-016	MO68	ALN-461
24 mm	1.9 EP-015	MO68	ALN-460

Slide System 77 Series

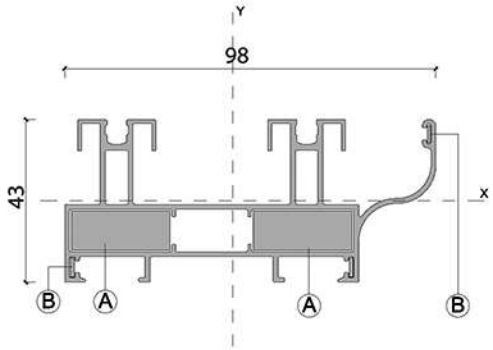
Profile & Accessories Information



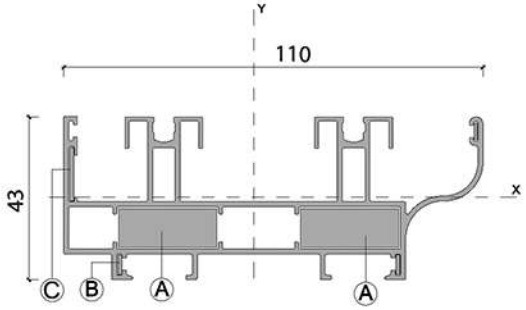
I_X: 8.40 cm^4	I_Y: 32.54 cm^4
Frame : ALN-351	A: PCP-11 / 26 mm
Weight: 1320 gr/m	B: MO 19 (399012)



I_X: 9.04 cm^4	I_Y: 47.04 cm^4
Frame : ALN-353	A: PCP-11 / 26 mm
Weight: 1528 gr/m	B: MO 19 (399012)
	C: MM 77



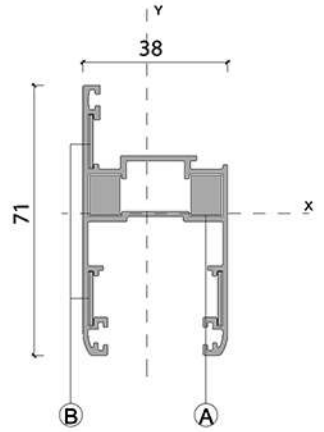
I_X: 8.98 cm^4	I_Y: 46.66 cm^4
Frame : ALN-352	A: PCP-11 / 26 mm
Weight: 1477 gr/m	B: MO 19 (399012)

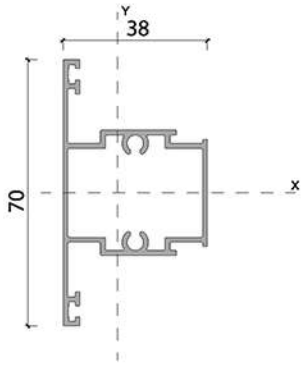


I_X: 10.15 cm^4	I_Y: 67.82 cm^4
Frame : ALN-354	A: PCP-11 / 26 mm
Weight: 1685 gr/m	B: MO 19 (399012)
	C: MM 77

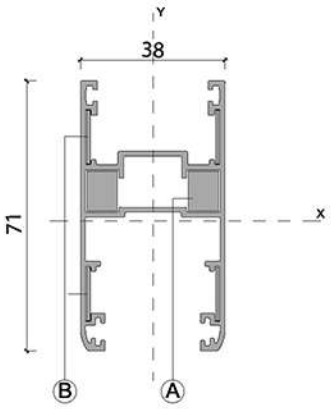
Slide System 77 Series

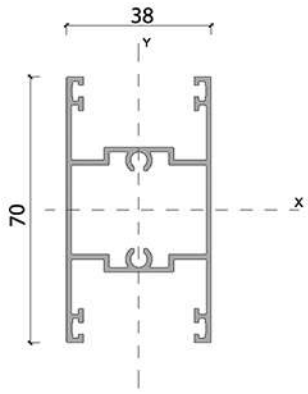
Profile & Accessories Information





I_X: 12.41 cm⁴	I_Y: 7.80 cm⁴	I_X: 9.27 cm⁴	I_Y: 5.50 cm⁴
Sash: ALN-355	A: PCP-11 / 8 mm	Transom: ALN-358	–
Weight: 912 gr/m	B: MM 77	Weight: 805 gr/m	–

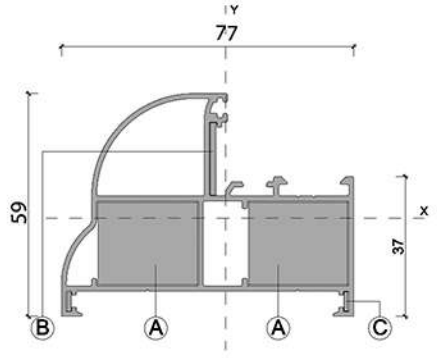




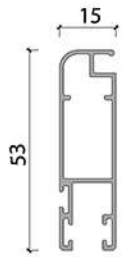
I_X: 15.62 cm⁴	I_Y: 9.26 cm⁴	I_X: 15.13 cm⁴	I_Y: 8.58 cm⁴
Sash: ALN-356	A: PCP-11 / 8 mm	Transom: ALN-359	–
Weight: 1029 gr/m	B: MM 77	Weight: 1010 gr/m	–

Slide System 77 Series

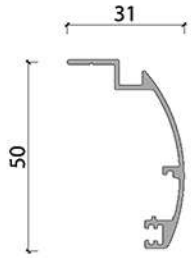
Profile & Accessories Information



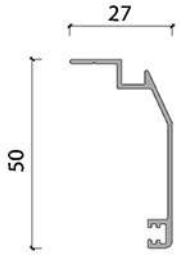
I_X: 13.29 cm^4	I_Y: 25.98 cm^4
Frame : ALN-366	A: PCP-22/26 mm
	B: fuji 2000
Weight: 1250 gr/m	D: MO 19



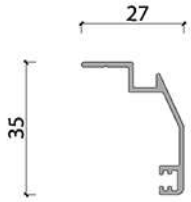
Fly screen : ALN-207	Weight : 448 gr/m



Flange profile: ALN-219	Weight : 362 gr/m



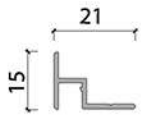
Flange profile: ALN-221	Weight : 302 gr/m



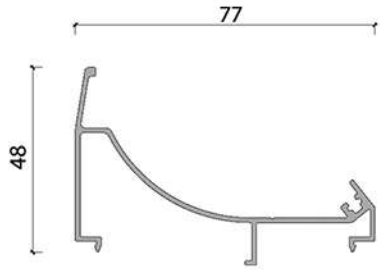
Flange profile: ALN-222	Weight : 254 gr/m

Slide System 77 Series

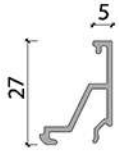
Profile & Accessories Information



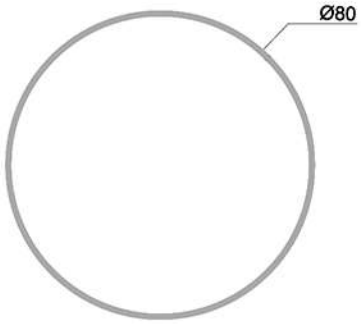
Profile : ALN-228	Weight : 135 gr/m



Profile : ALN-326	Weight : 613 gr/m



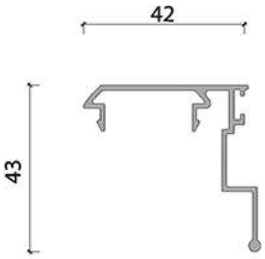
Glazing beads: ALN-321	Weight : 224 gr/m



Profile: ALN-328	Weight : 999 gr/m



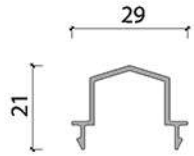
Glazing beads: ALN-322	Weight : 238 gr/m



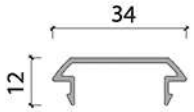
Cap : ALN-357	Weight : 432 gr/m

Slide System 77 Series

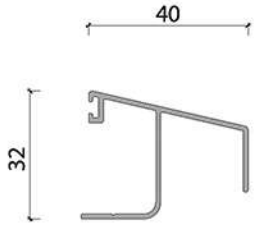
Profile & Accessories Information



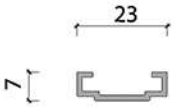
Profile : ALN-360	Weight: 203 gr/m



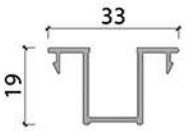
Profile : ALN-363	Weight: 197 gr/m



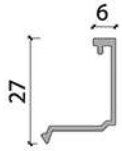
Profile : ALN-361	Weight: 370 gr/m



Profile : ALN-364	Weight: 140 gr/m



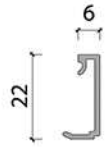
Glazing beads: ALN-362	Weight : 254 gr/m



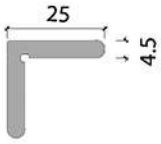
Glazing beads: ALN-424	Weight : 167 gr/m

Slide System 77 Series

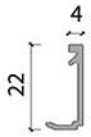
Profile & Accessories Information



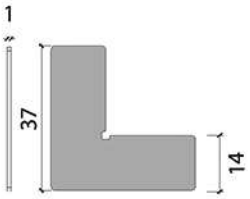
Glazing beads: ALN-460	Weight : 127 gr/m



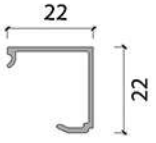
Corner joint: MO 19 (399012)	Weight: –



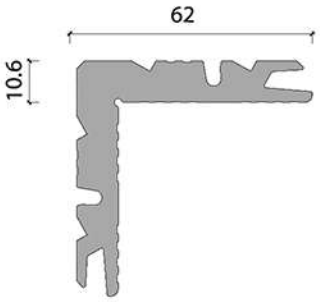
Glazing beads: ALN-461	Weight : 119 gr/m



Corner joint : MM 77	Weight: –



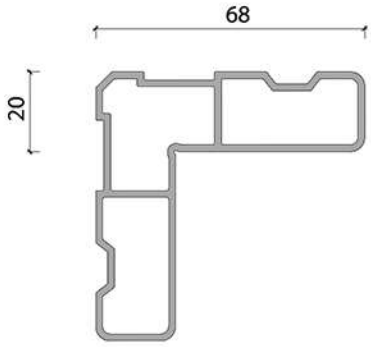
Glazing beads: ALN-463	Weight : 178 gr/m



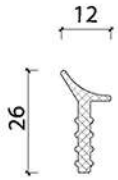
Corner joint : PCP11	Weight: 2549 gr/m

Slide System 77 Series

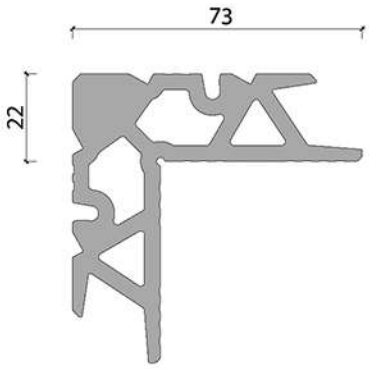
Profile & Accessories Information



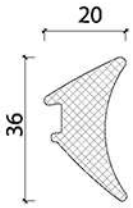
Corner joint: PCP 20	Weight : 1375 gr/m



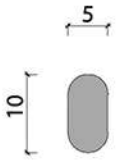
Gasket: EP-015	Weight : 21 gr/m



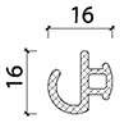
Corner joint: PCP-22	Weight : 3718 gr/m



Gasket: EP-016	Weight : 77 gr/m



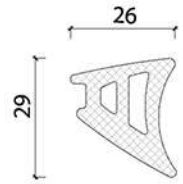
Rail : ALN-462	Weight: 119 gr/m



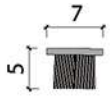
Gasket: EP-018	Weight : 27 gr/m

Slide System 77 Series

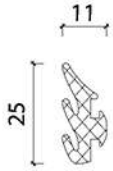
Profile & Accessories Information



Gasket: EP-021	Weight : 80 gr/m



Gasket: PB7-3P-70-500	Weight : –



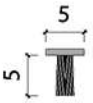
Gasket: MO68	Weight : 46 gr/m



Gasket: PB7-3P-70-800	Weight : –



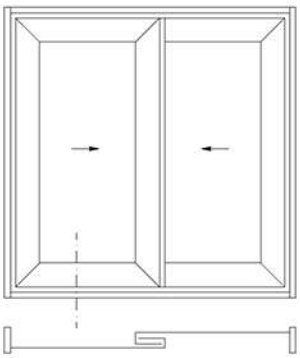
Gasket : MO 60	Weight: 26 gr/m

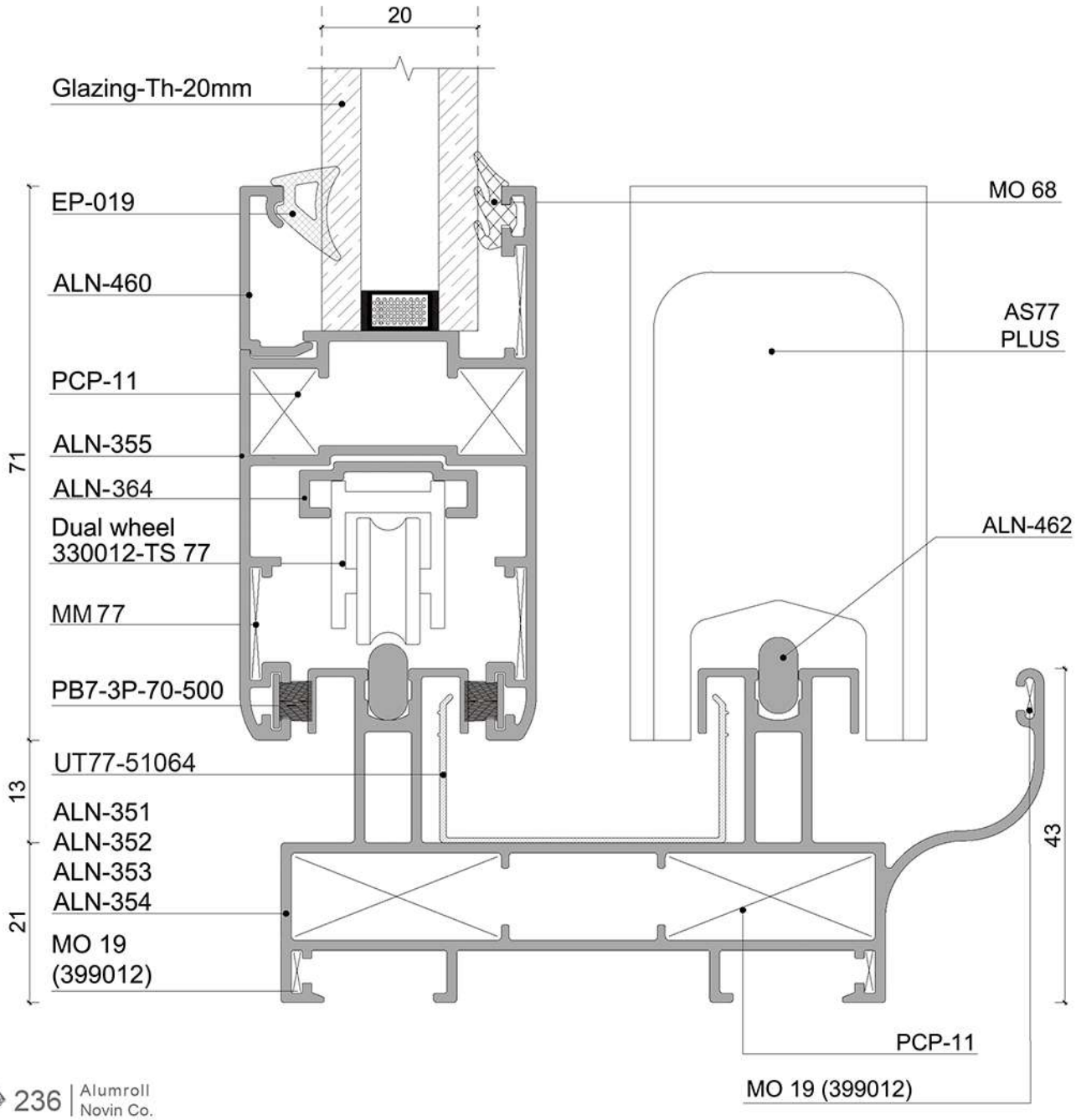


Gasket: PB7-3P-50-500	Weight : –

Slide System 77 Series

Fabrication Detailes

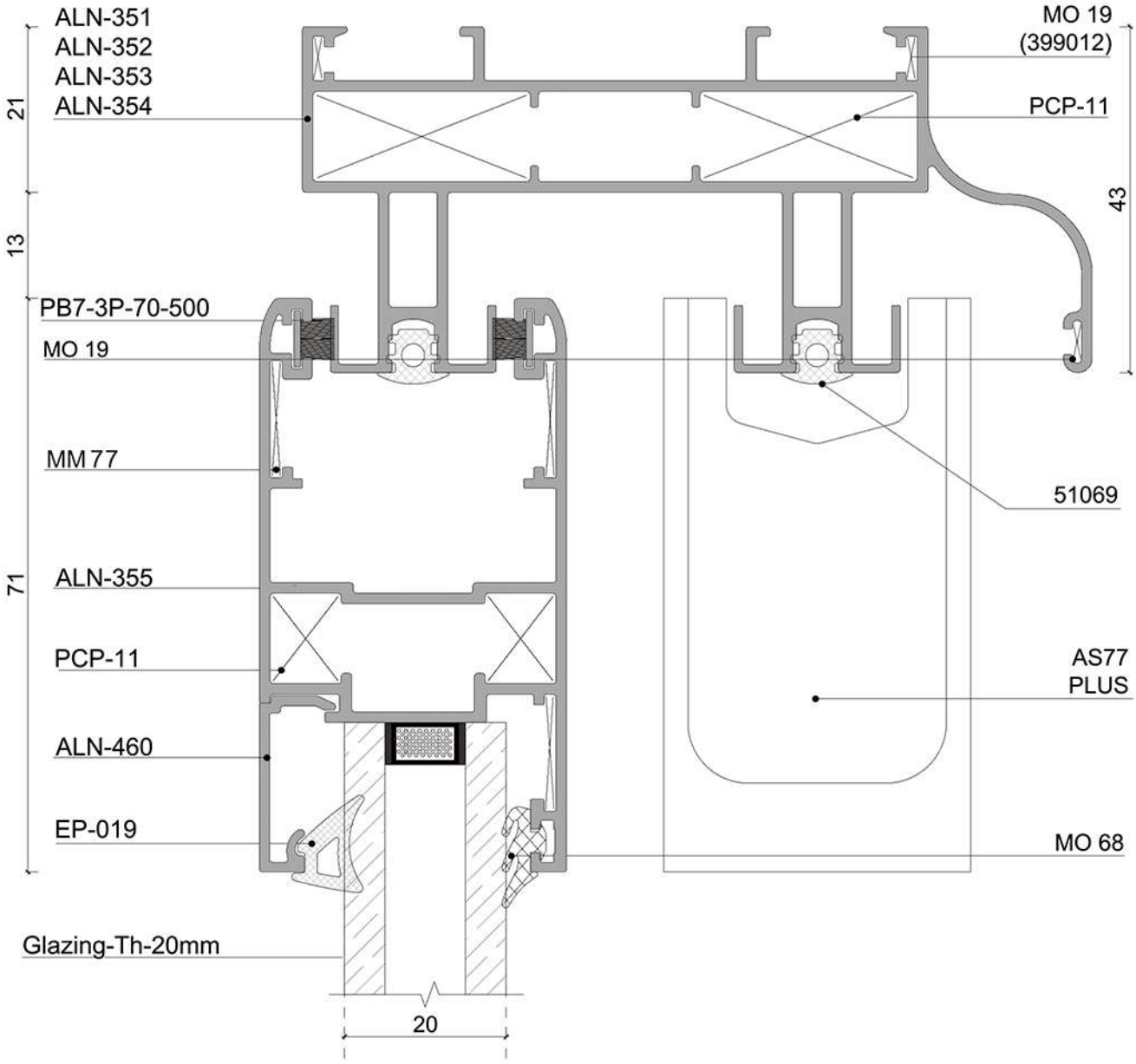




Slide System 77 Series

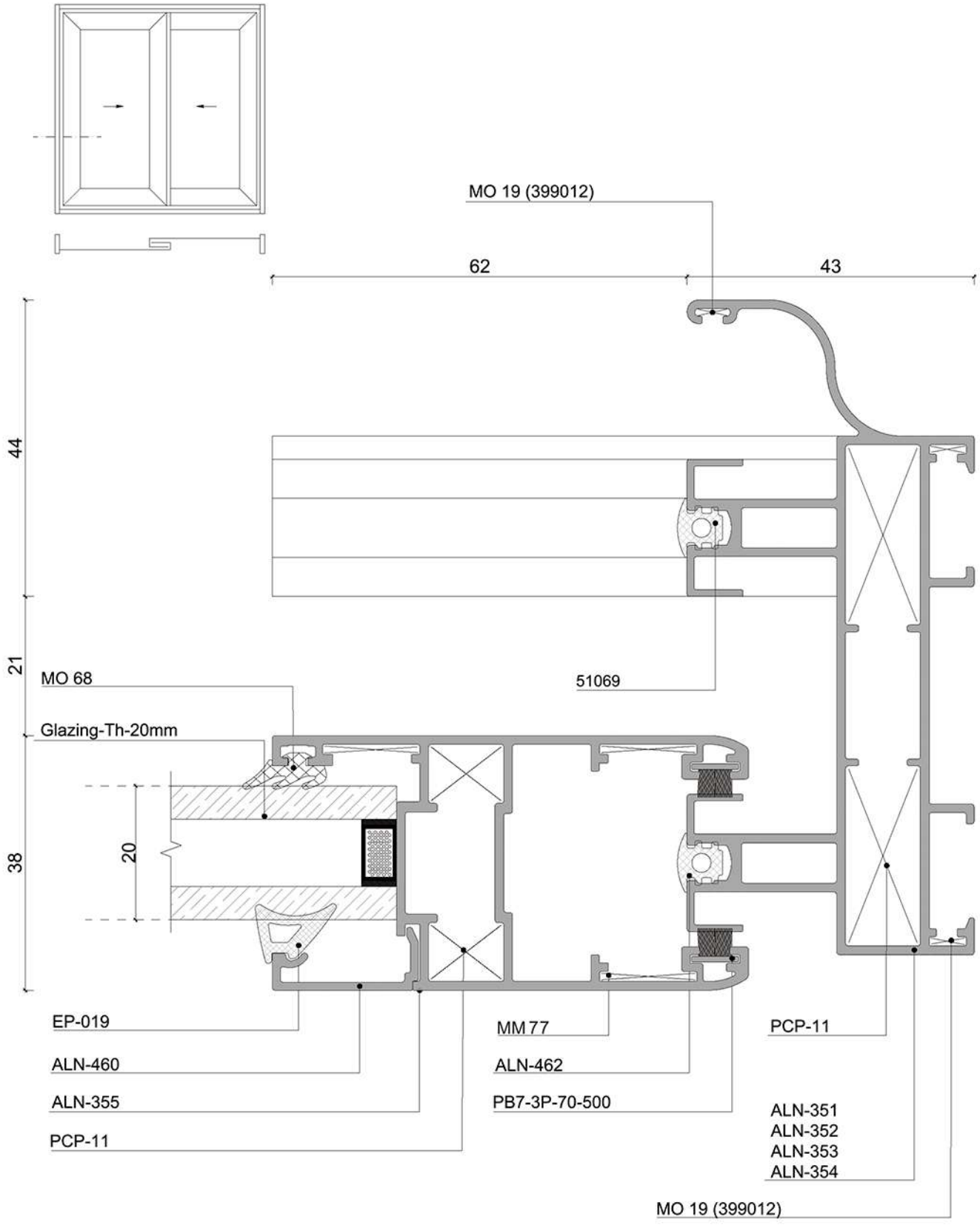
Fabrication Detailes





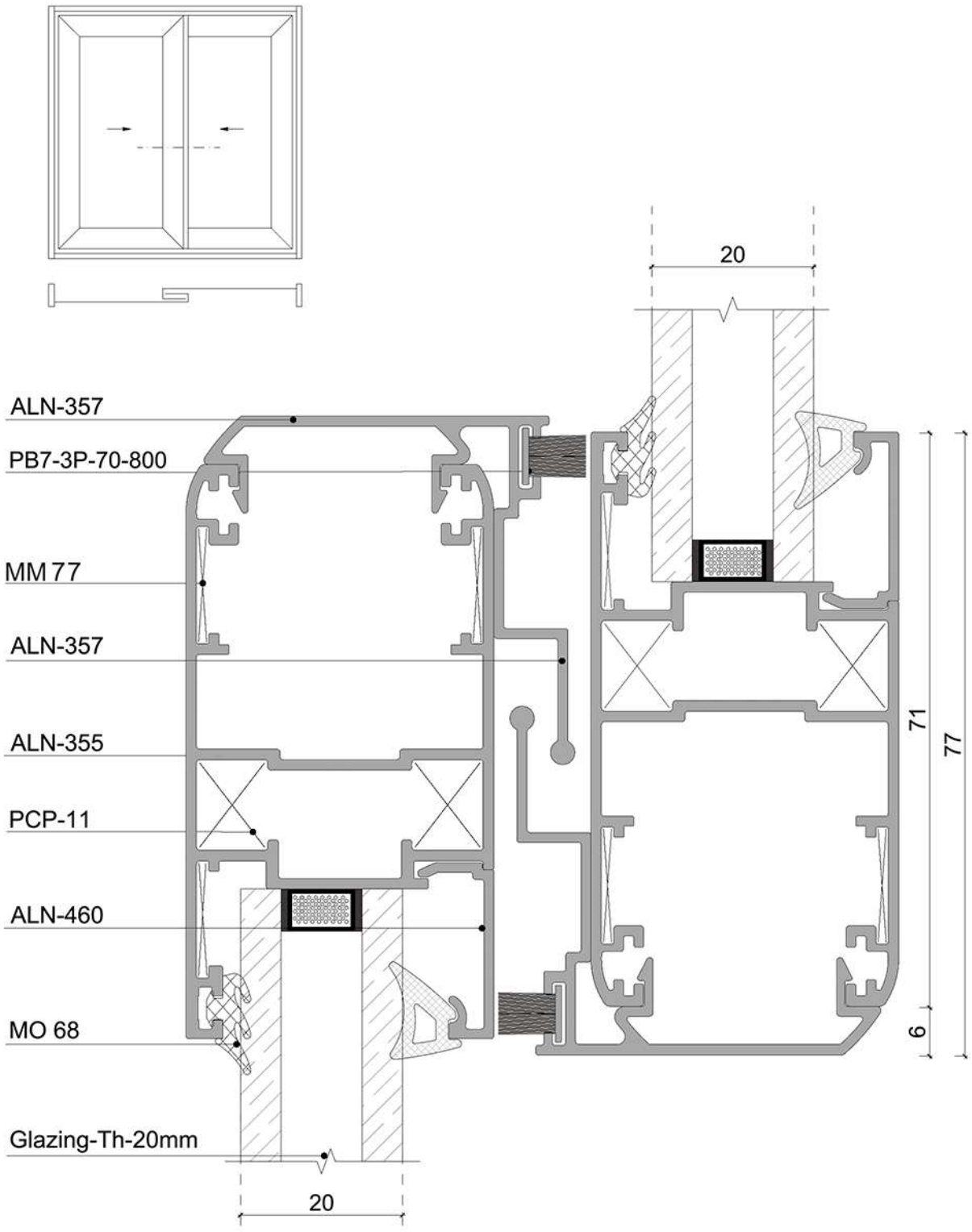
Slide System 77 Series

Fabrication Detailes



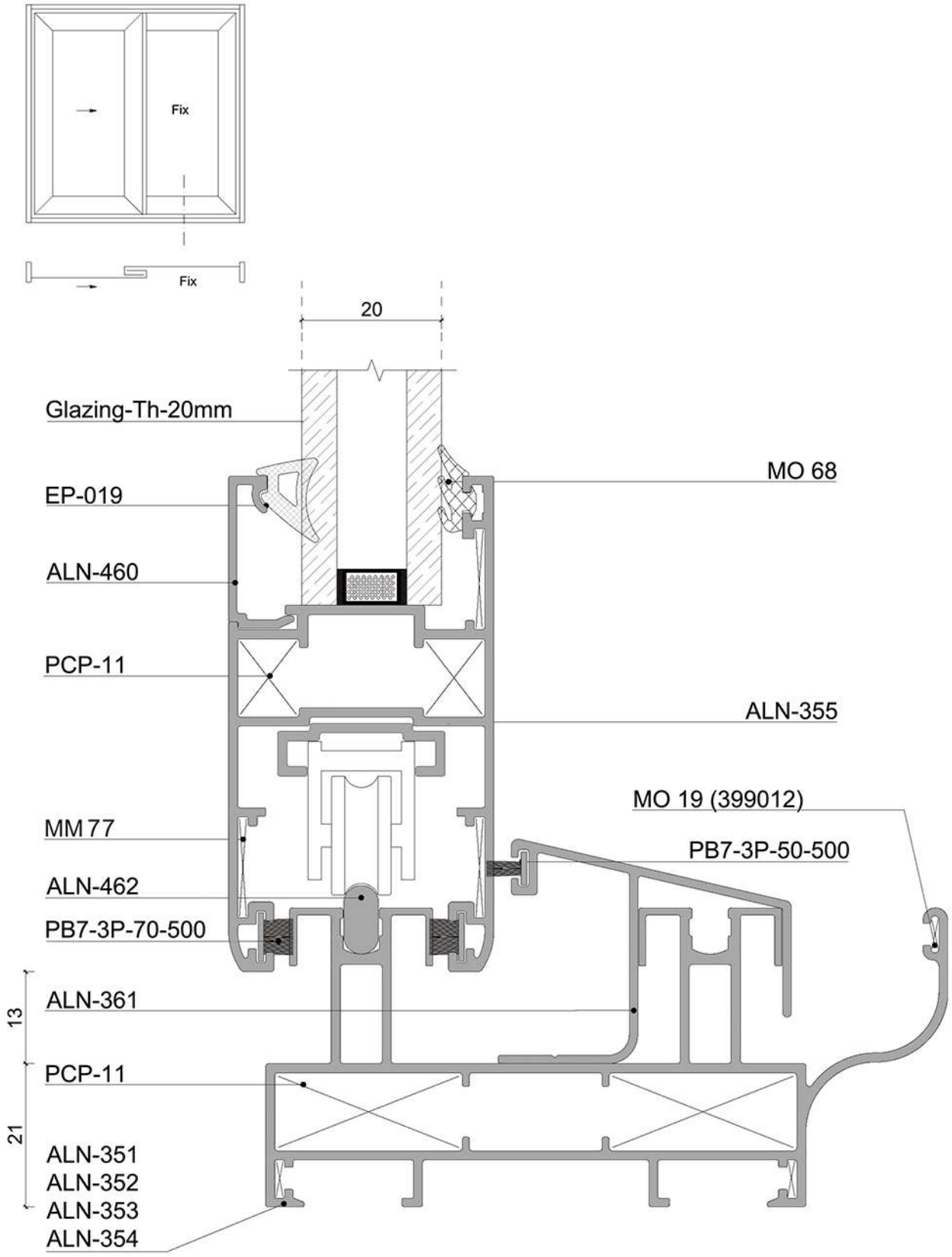
Slide System 77 Series

Fabrication Detailes



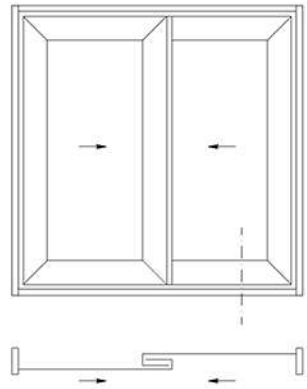
Slide System 77 Series

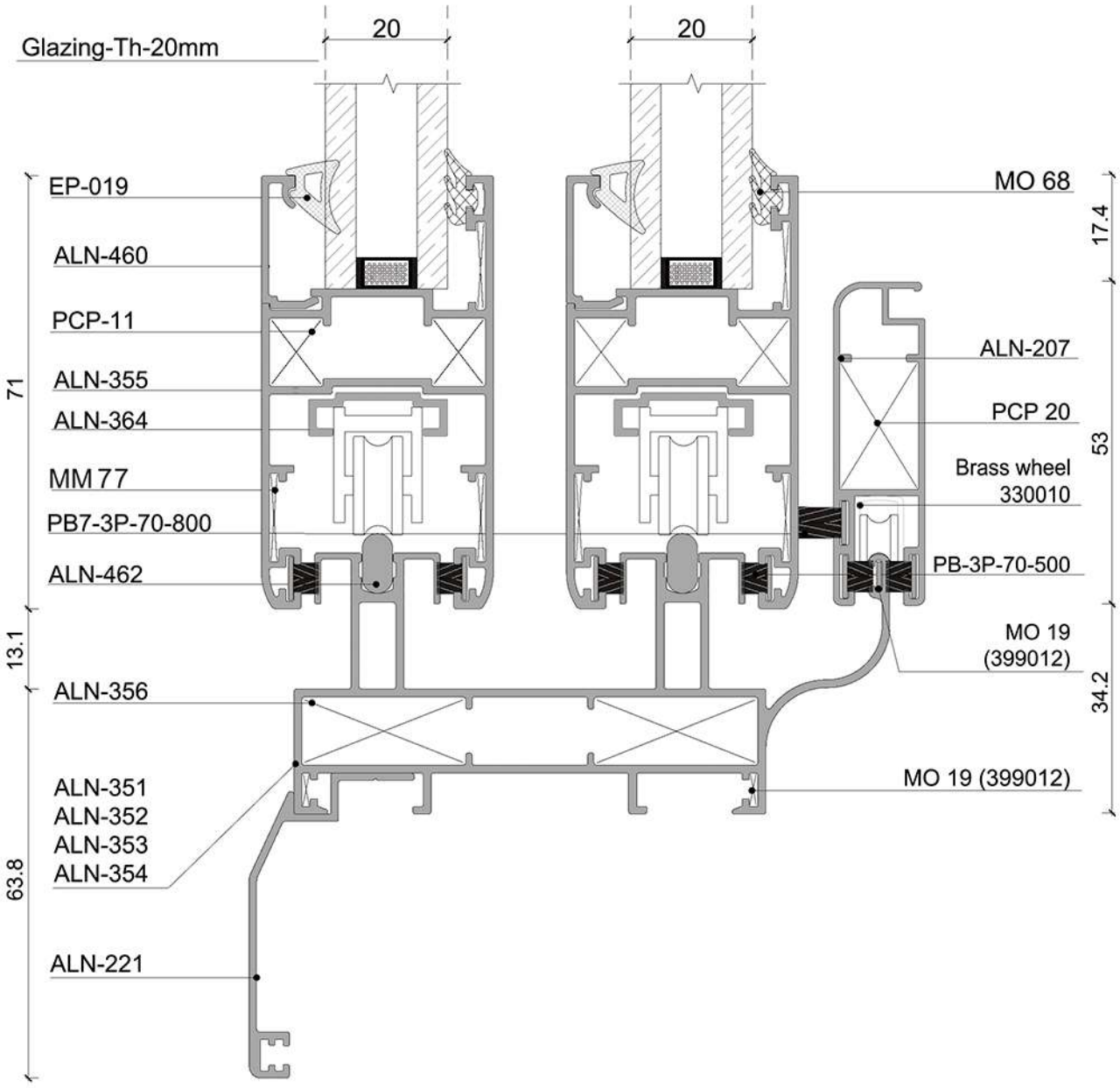
Fabrication Detailes



Slide System 77 Series

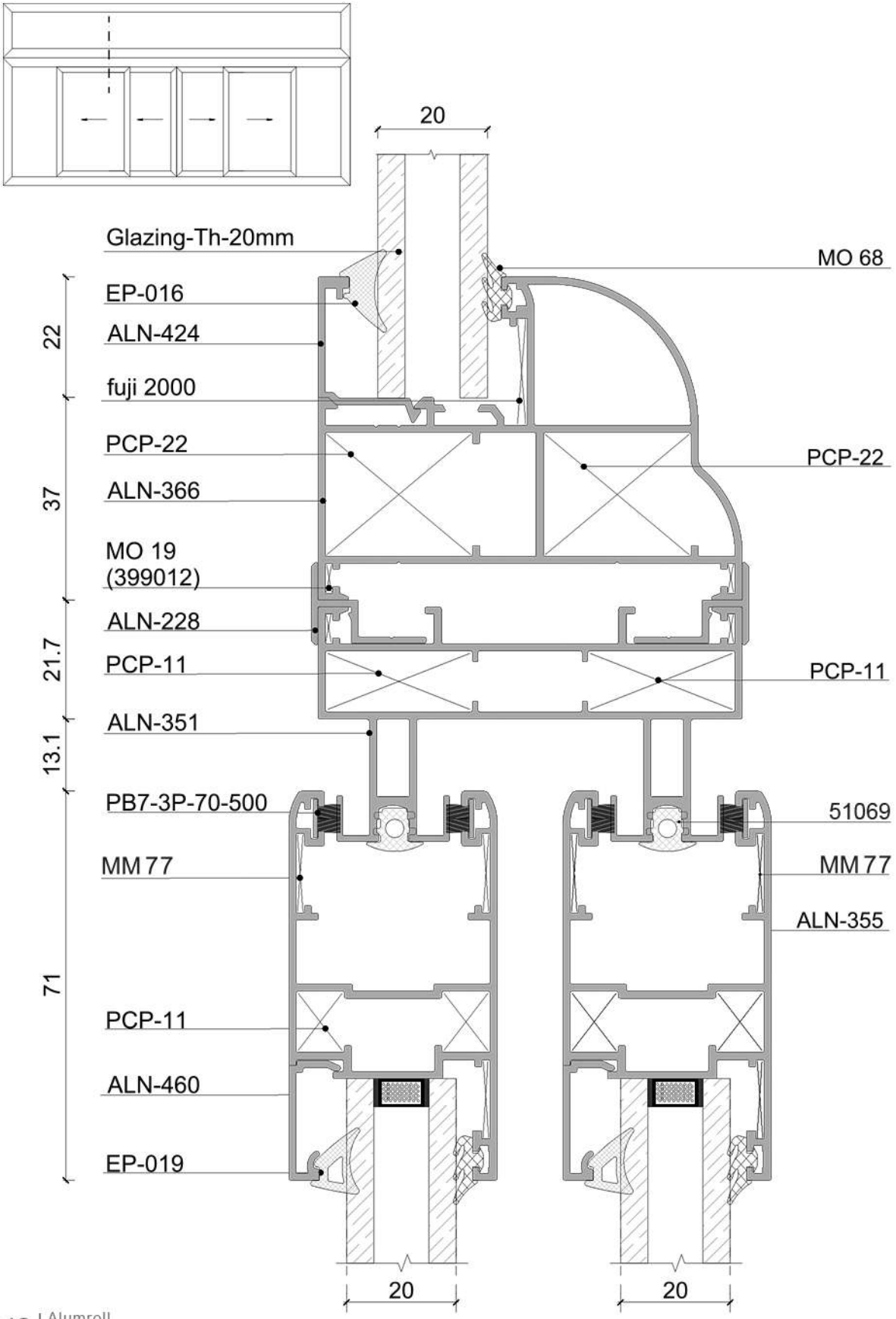
Fabrication Detailes





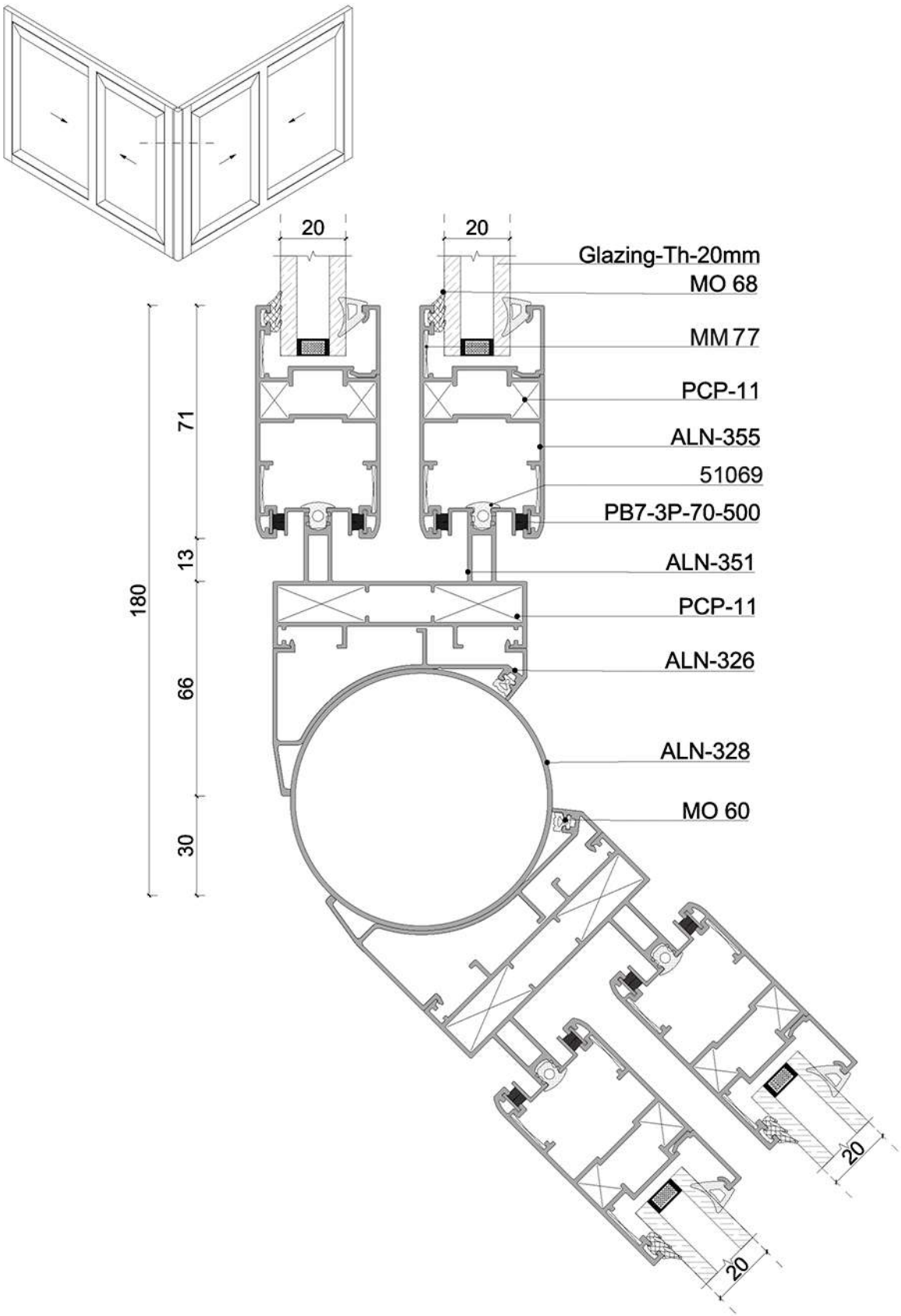
Slide System 77 Series

Fabrication Detailes



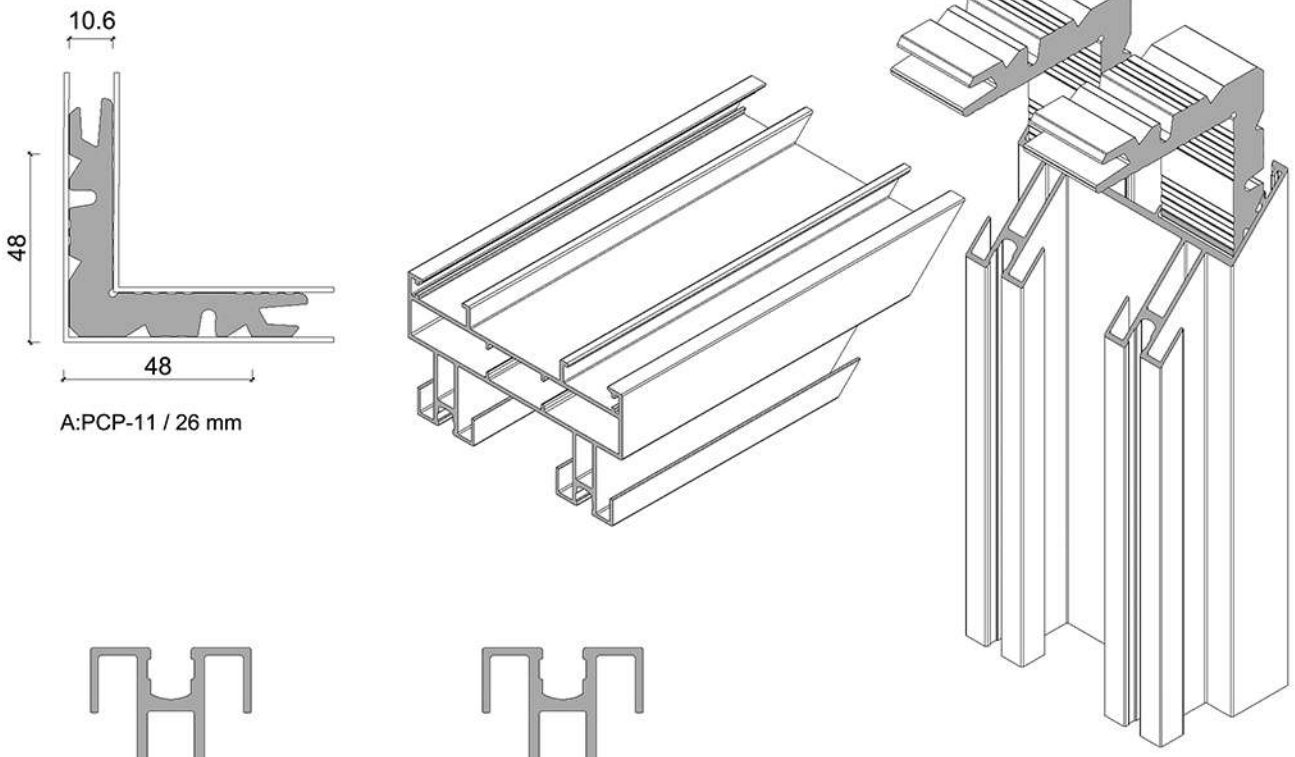
Slide System 77 Series

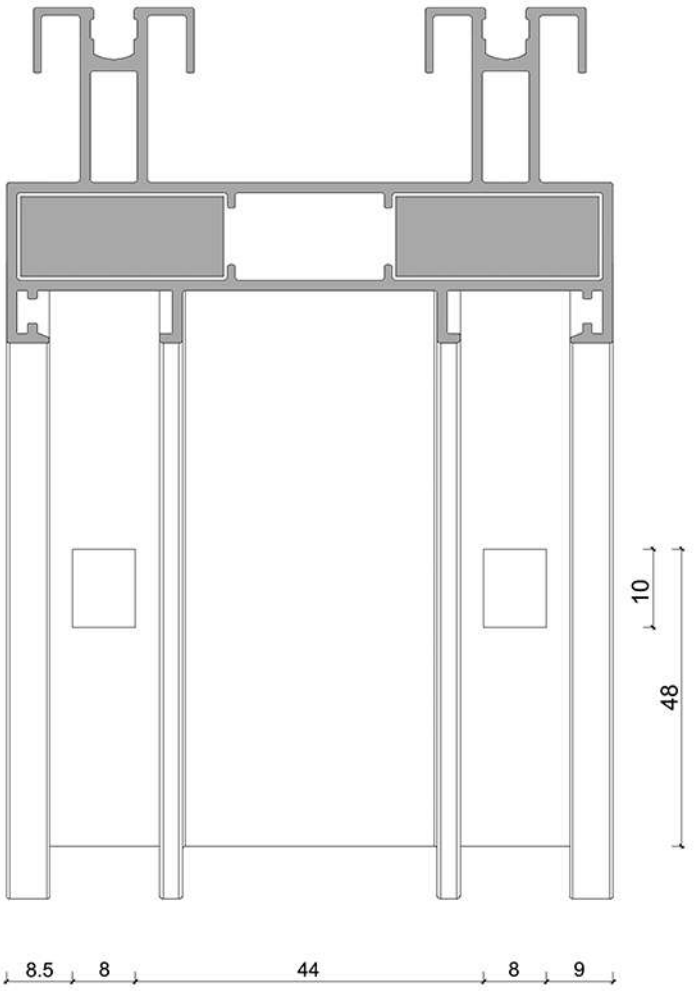
Fabrication Detailes

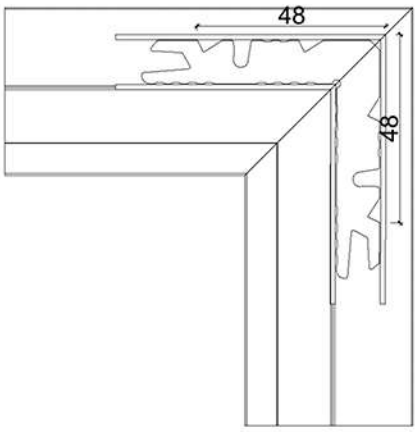


Slide System 77 Series

Assembly Drawing

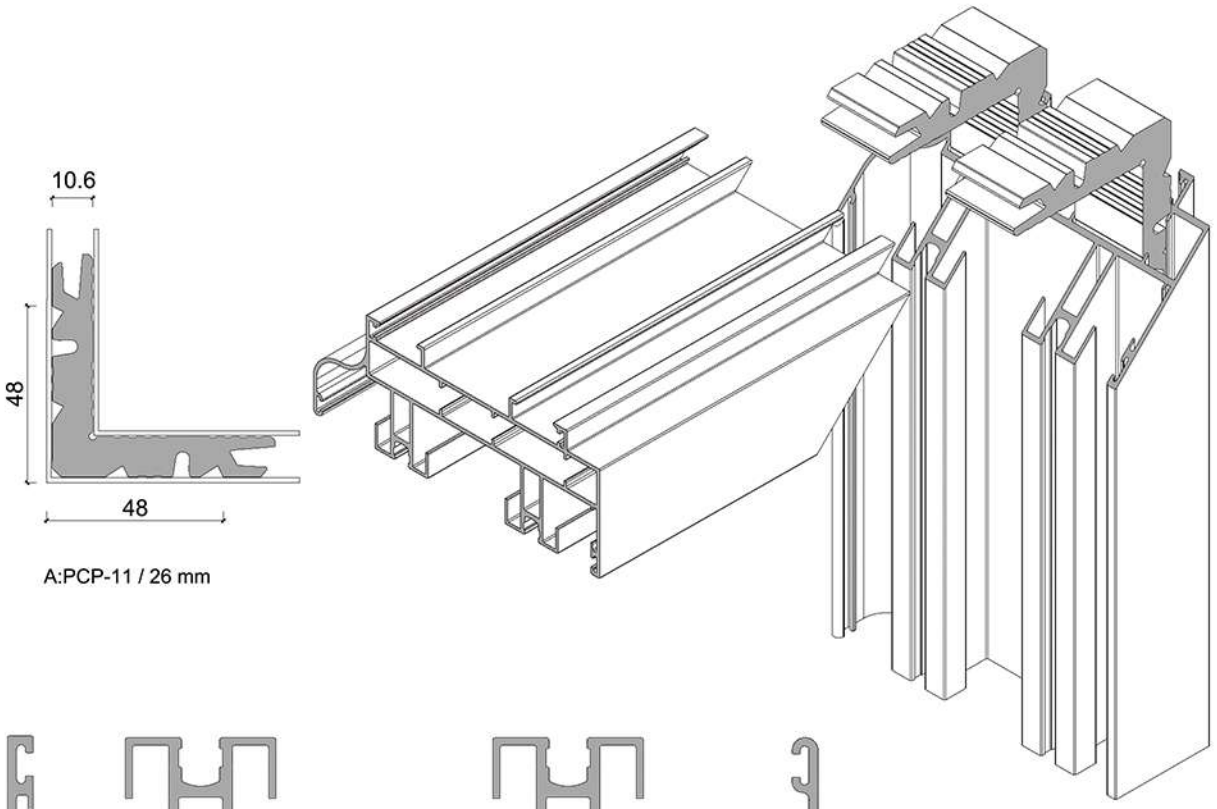


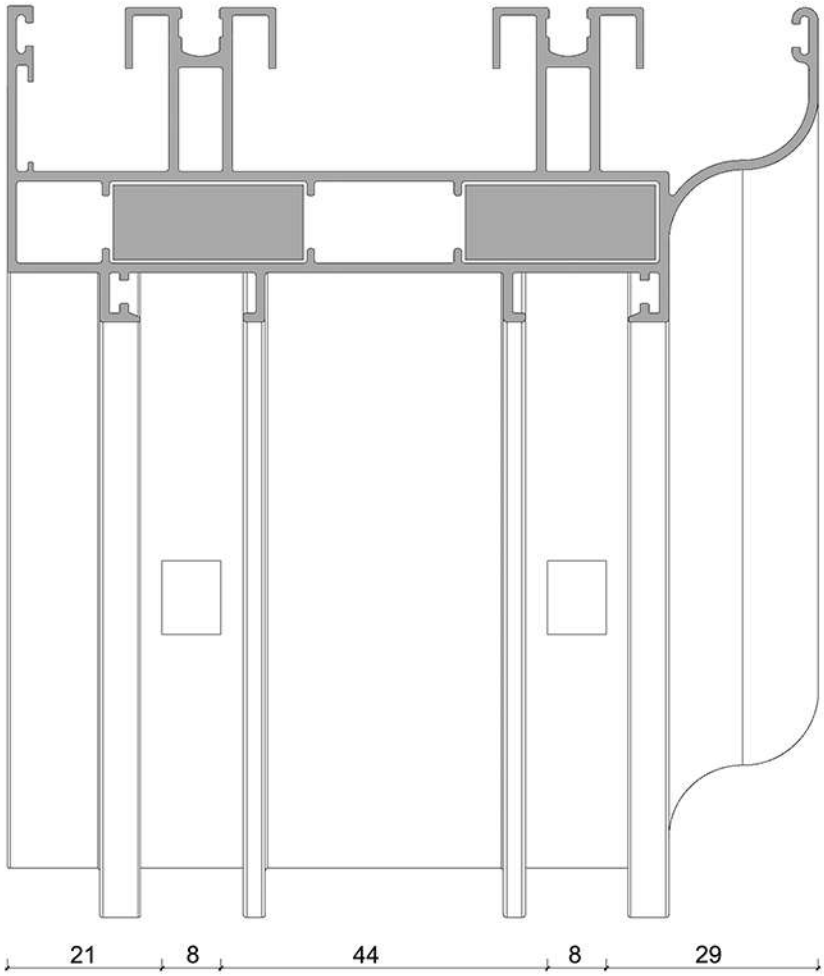


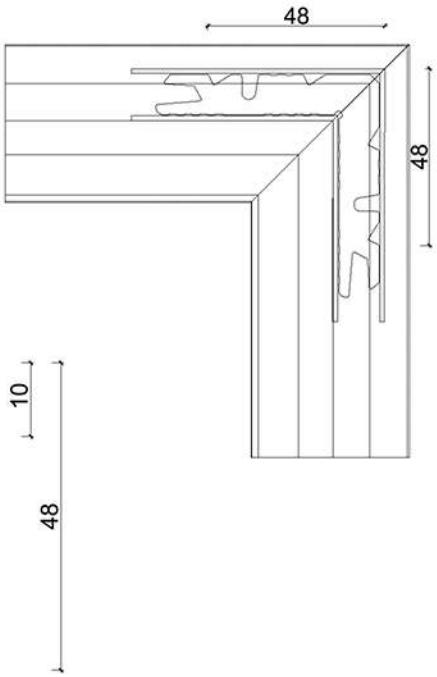


Slide System 77 Series

Assembly Drawing

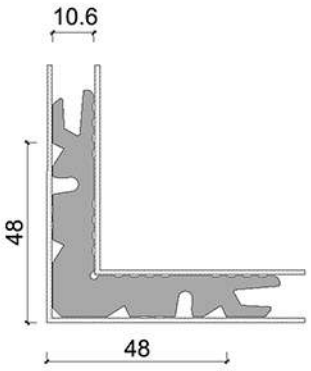




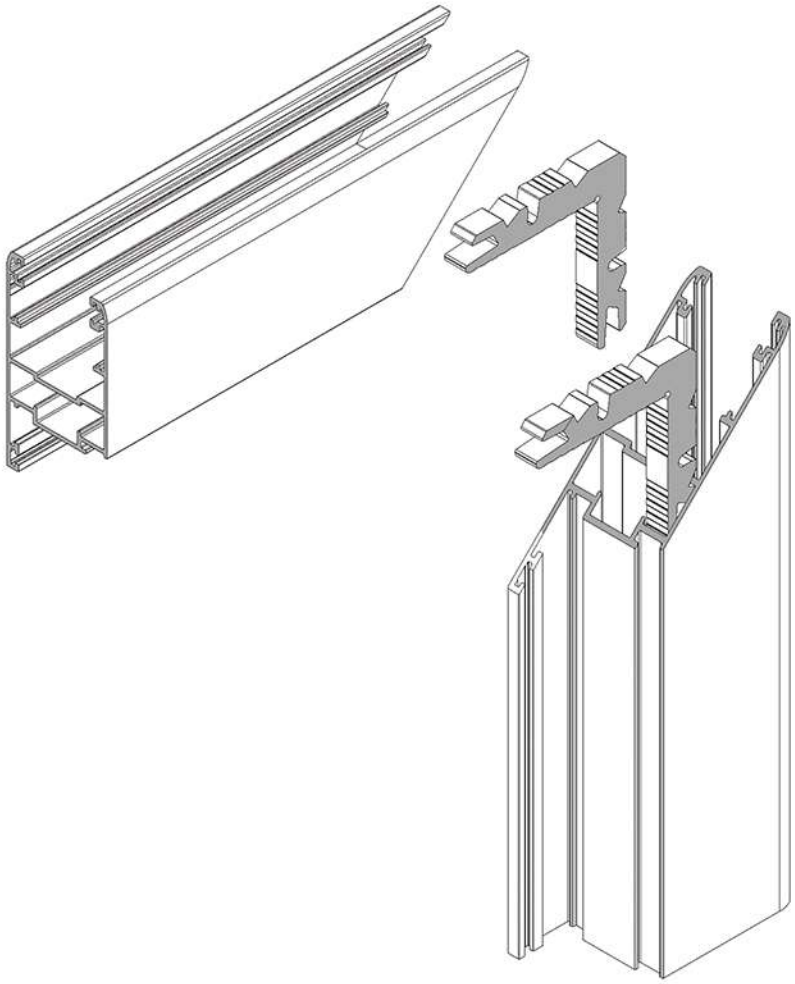


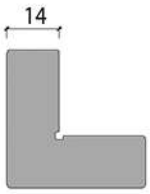
Slide System 77 Series

Assembly Drawing

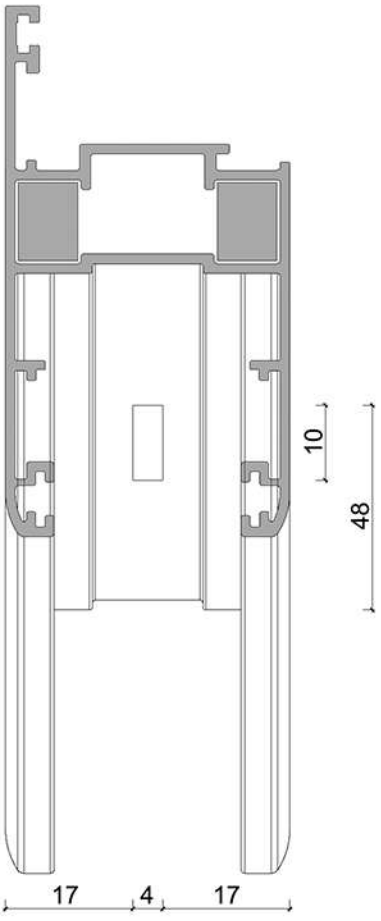


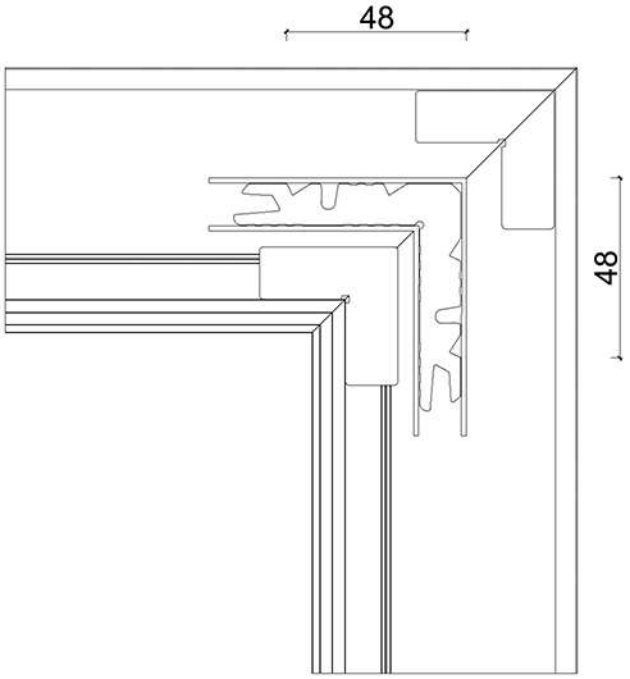
A:PCP-11 / 8 mm





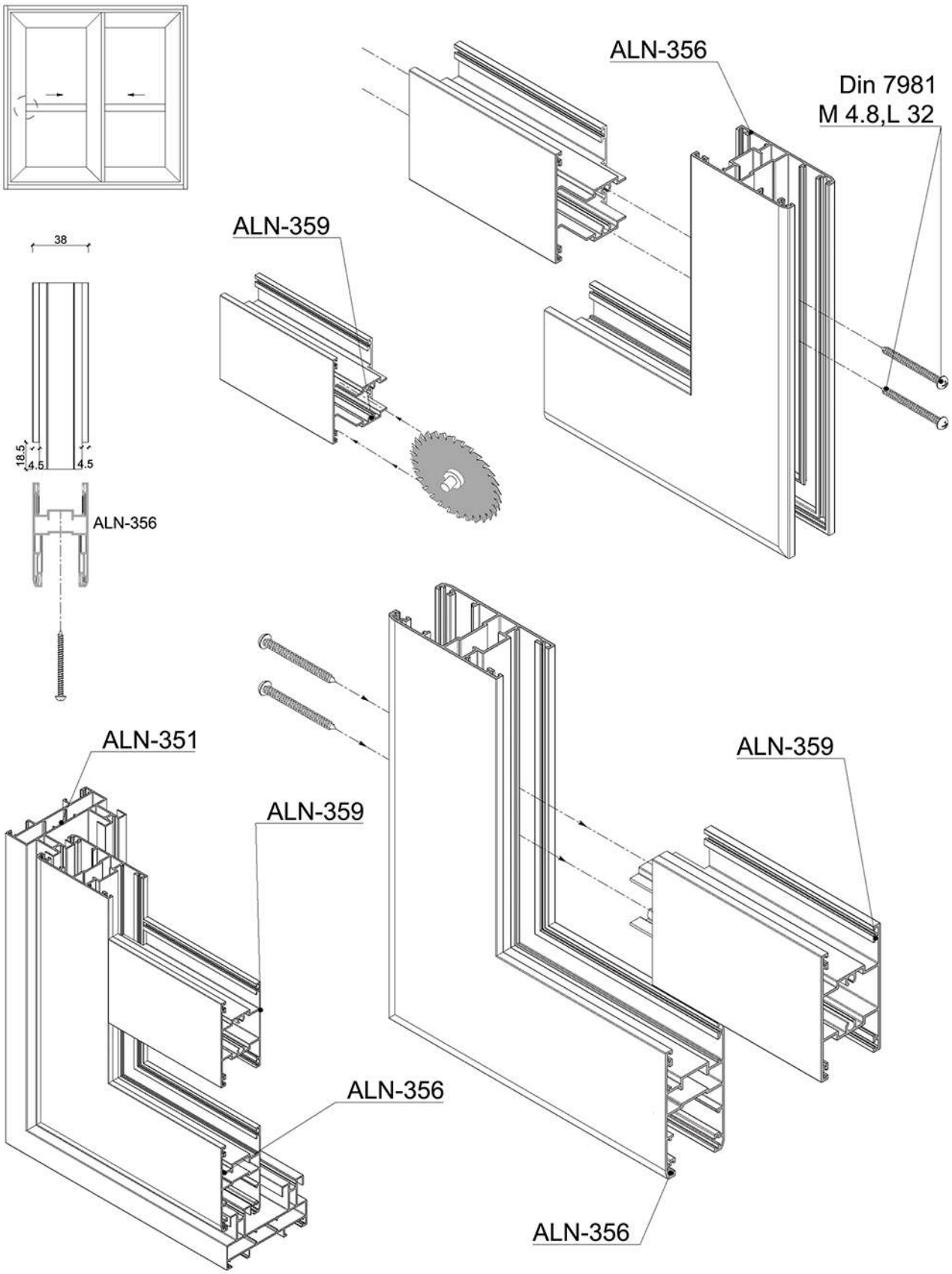
C: MM77





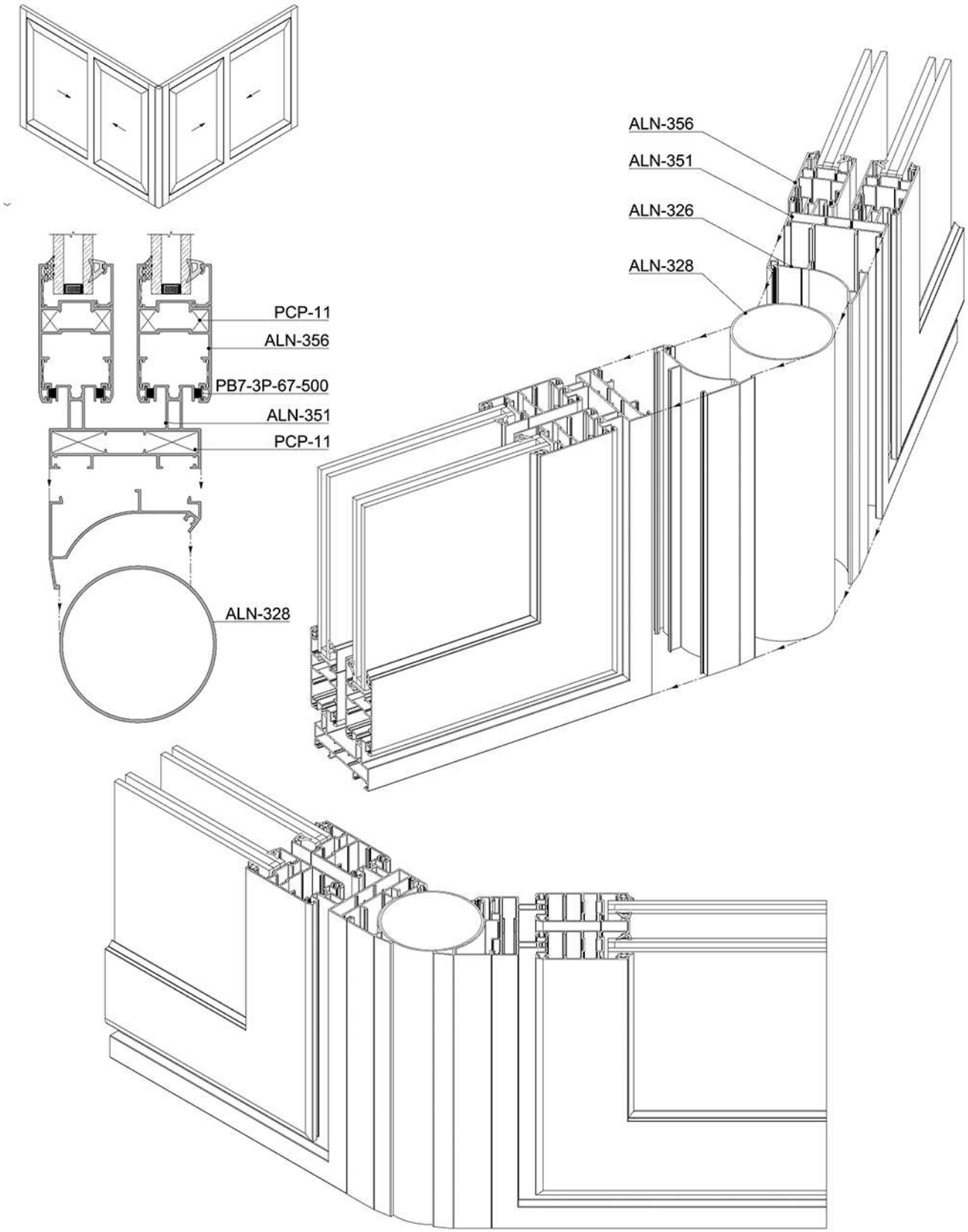
Slide System 77 Series

Assembly Drawing



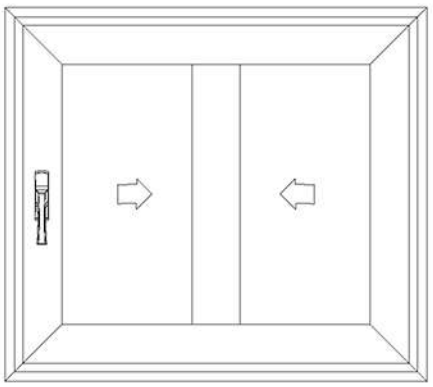
Slide System 77 Series

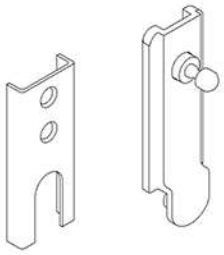
Assembly Drawing

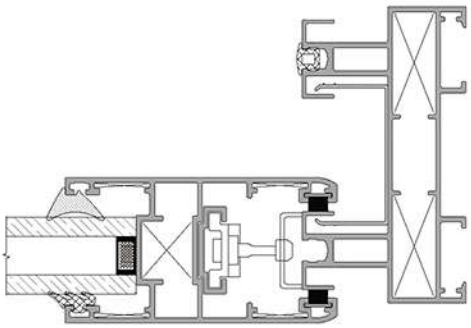


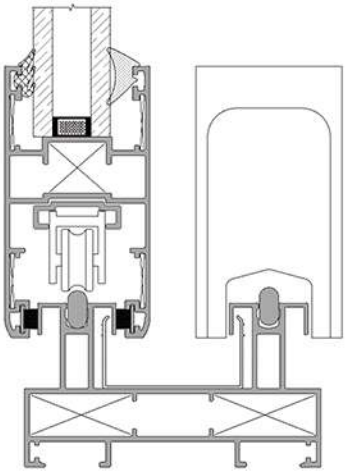
Slide System 77 Series

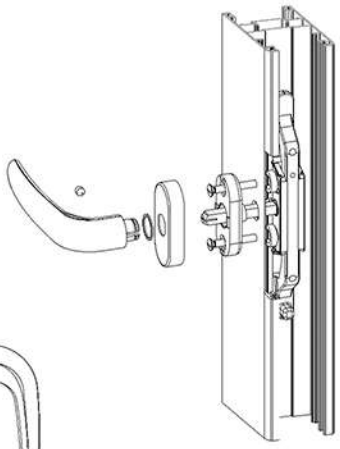
Hardware Installation

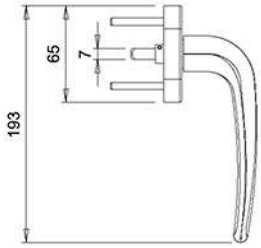


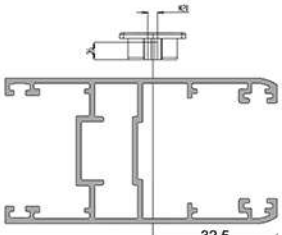


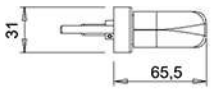


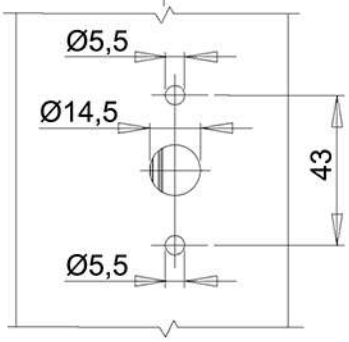


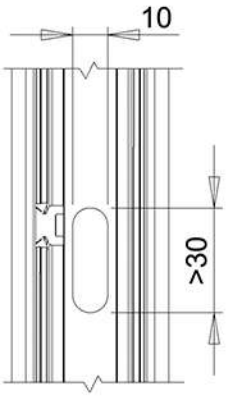


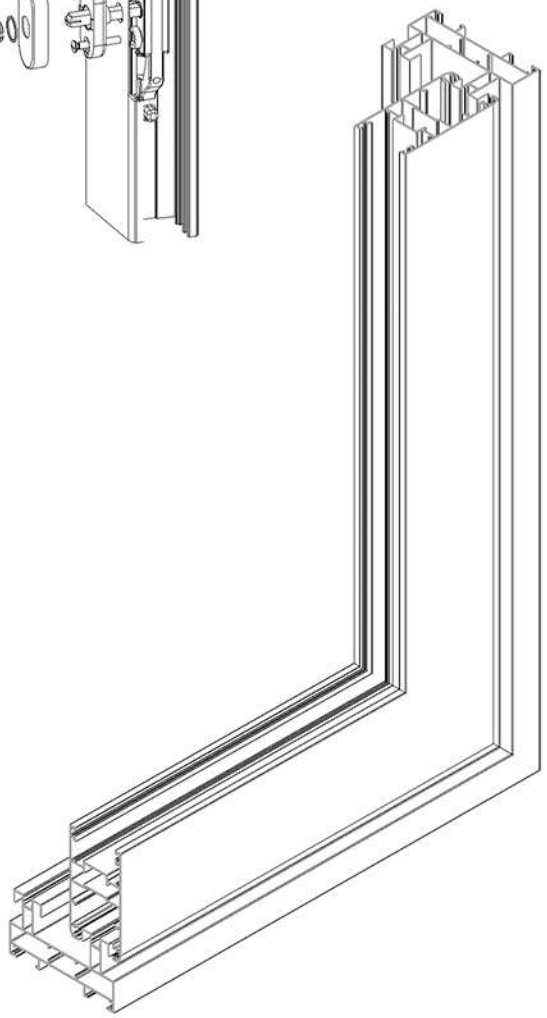








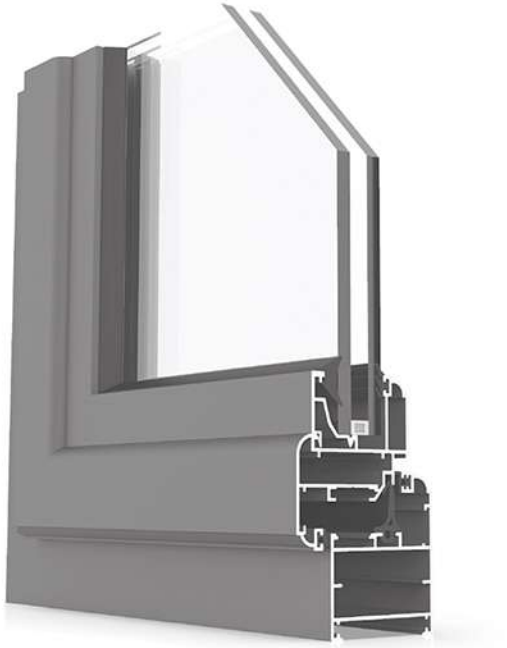




ALN 200

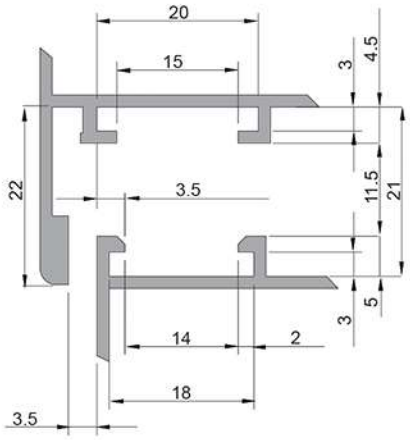
Normal Systems



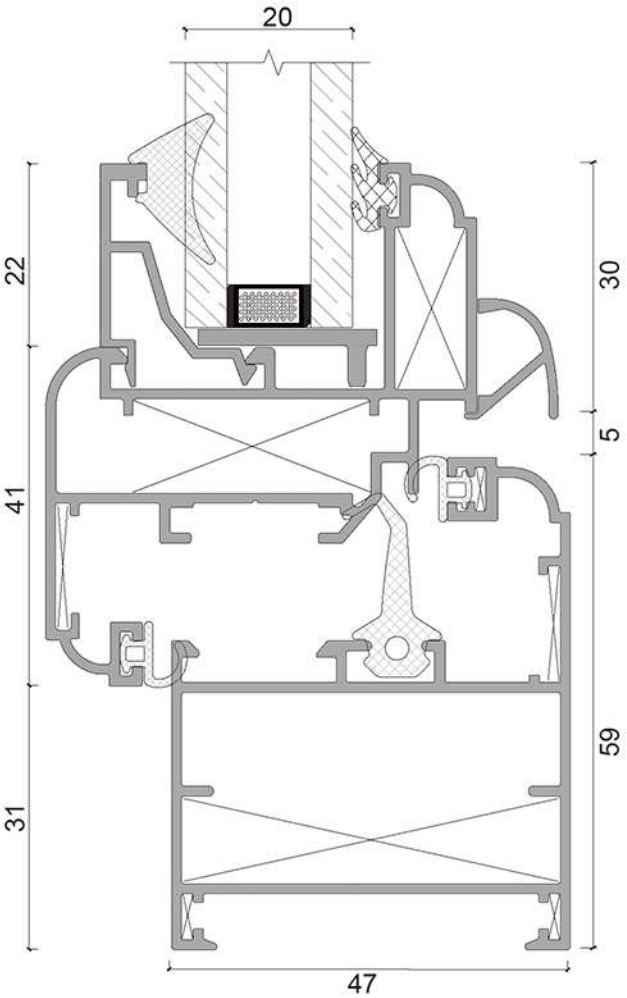


Hinged System 47 & 59 Series

. Profile width:	47,59 mm
. Vent width:	52 mm
. Wall thickness:	1.2 - 1.3 mm
. Rubber description:	EPDM DIN 7863
. Glass thickness:	6 - 22 m
. Aluminum alloy extrusion:	EN AW 6063 T5
. Safety drainage system	
. Various typologies	

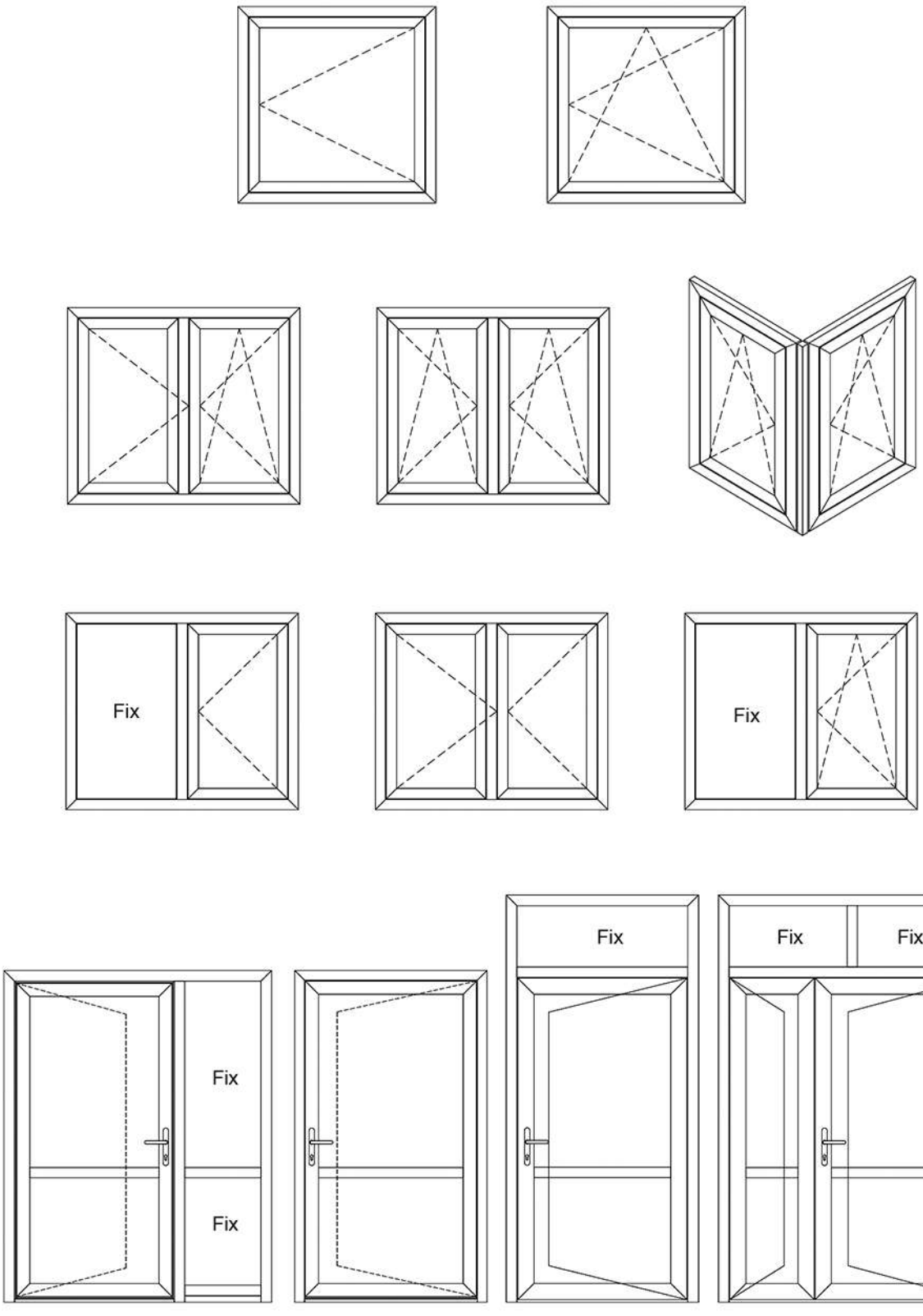


Euro Groove Section



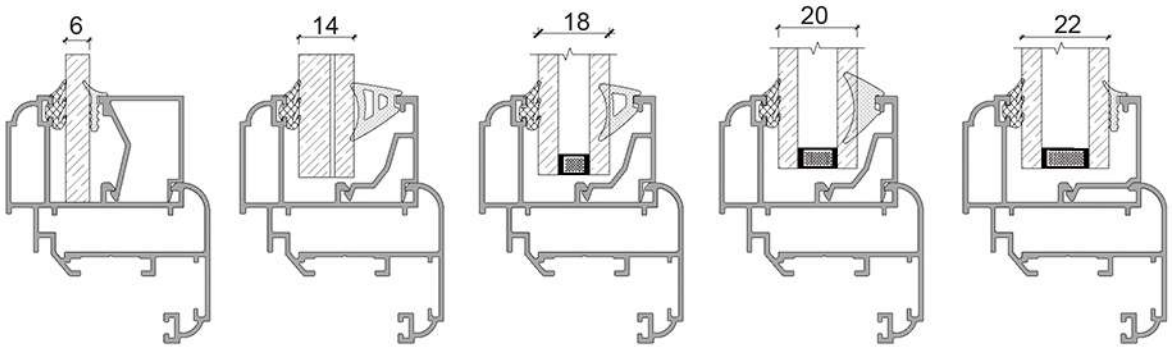
Hinged System 47 & 59 Series

Typologies



Hinged System 47 & 59 Series

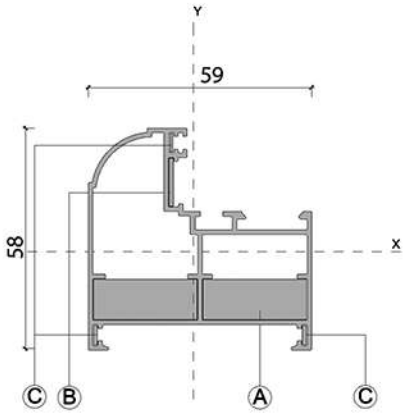
Glazing Table



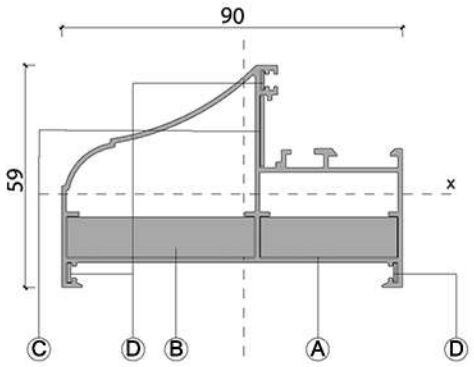
Glazing Thickness	Gasket Inside	Gasket Outside	Glazing Bead
6 mm	EP-015	MO68	ALN-214
14 mm	EP-021	MO68	ALN-213
18 mm	EP-019	MO68	ALN-213
20 mm	EP-016	MO68	ALN-213
22 mm	EP-016	MO68	ALN-424

Hinged System 47 & 59 Series

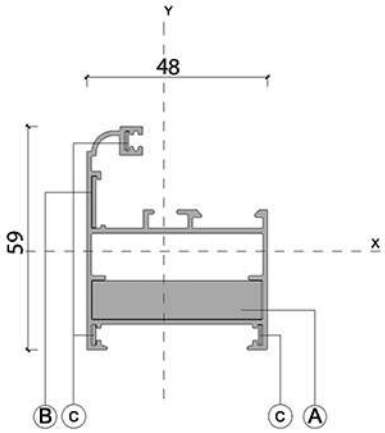
Profile & Accessories Information



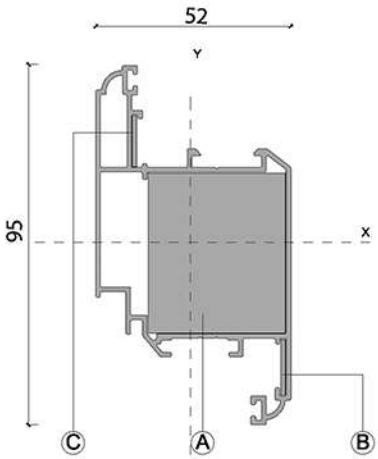
I_X: 10.93 cm^4	I_Y: 14.33 cm^4	
Frame : ALN-208	A: PCP-11 / 26 mm	
	B: fuji 2013	
Weight: 990 gr/m	C: MO 19	



I_X: 11.96 cm^4	I_Y: 35.26 cm^4	
Frame : ALN-243	A: PCP-11 / 36 mm	
	B: PCP-11 / 49 mm	
Weight: 1170 gr/m	C: fuji 2000	
	D: MO 19	



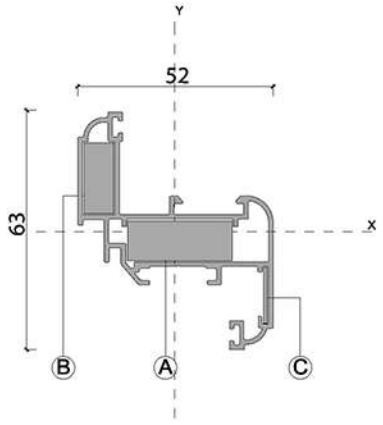
I_X: 8.91 cm^4	I_Y: 9.71 cm^4	
Frame : ALN-217	A: PCP-10 / 44 mm	
	B: fuji 2013	
Weight: 830 gr/m	C: MO 19	

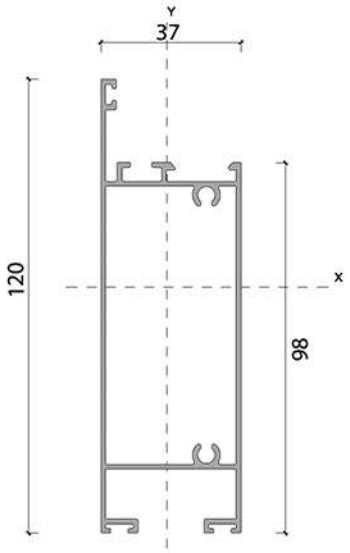


I_X: 29.28 cm^4	I_Y: 15.59 cm^4	
Sash : ALN-209	A: PCP-42 / 35 mm	
	B: MM 55	
Weight: 1120 gr/m	C: fuji 2013	

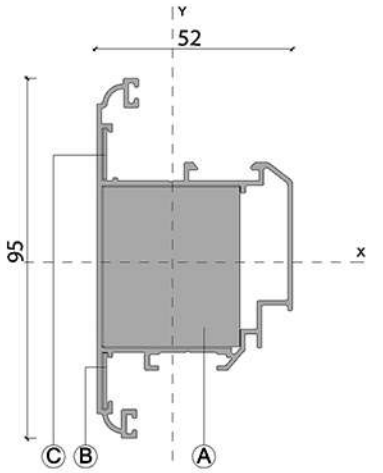
Hinged System 47 & 59 Series

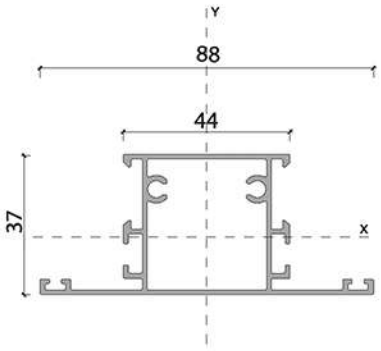
Profile & Accessories Information





I_X: 7.43 cm⁴	I_Y: 10.16 cm⁴	I_X: 10.56 cm⁴	I_Y: 60.90 cm⁴
	A: PCP-11 / 27 mm		
Sash : ALN-216	B: PCP-19 / 8 mm	Sash : ALN-235	A: -
Weight: 880 gr/m	C: MM 55	Weight: 1212 gr/m	B: -

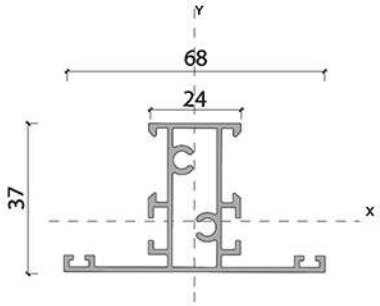


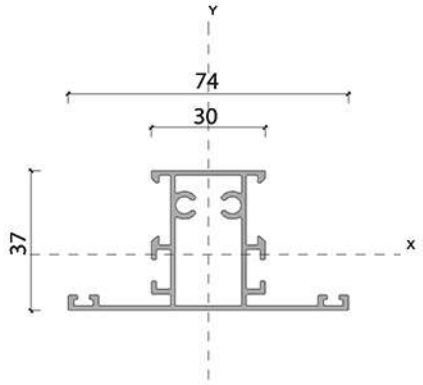


I_X: 27.15 cm⁴	I_Y: 13.75 cm⁴	I_X: 6.90 cm⁴	I_Y: 16.10 cm⁴
Sash : ALN-223	A: PCP-42 / 36 mm	Transom : ALN-211	A: –
	B: MM 55		
Weight: 1055 gr/m	C: fuji 2013	Weight: 940 gr/m	B: –

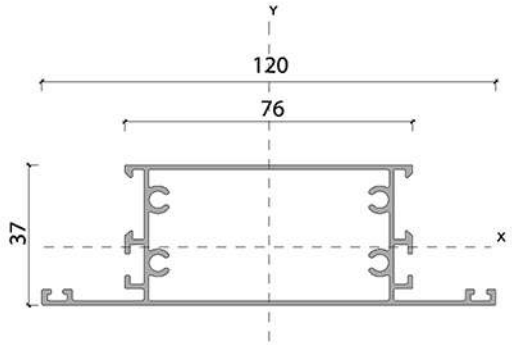
Hinged System 47 & 59 Series

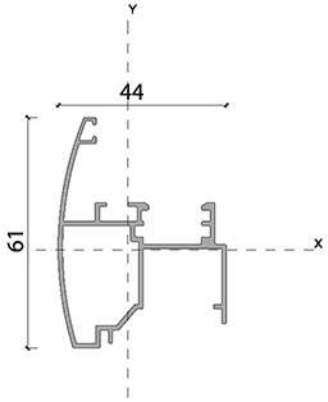
Profile & Accessories Information





I_X: 4.96 cm^4	I_Y: 6.14 cm^4	I_X: 5.77 cm^4	I_Y: 8.47 cm^4
Transom: ALN-218	A: -	Transom: ALN-248	A: -
Weight: 813 gr/m	B: -	Weight: 851 gr/m	B: -

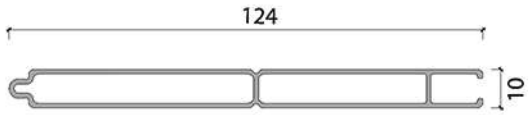




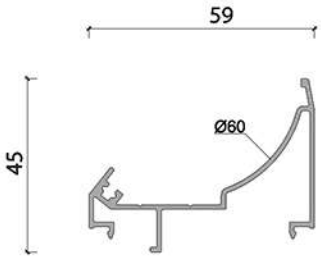
I_X: 9.51 cm^4	I_Y: 49.88 cm^4	I_X: 5.53 cm^4	I_Y: 5.77 cm^4
Transom: ALN-245	A: -	Profile: ALN-210	A: -
Weight: 1242 gr/m	B: -	Weight: 700 gr/m	B: -

Hinged System 47 & 59 Series

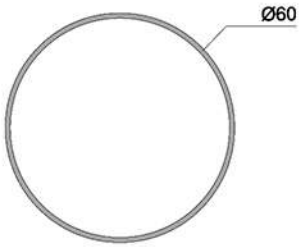
Profile & Accessories Information



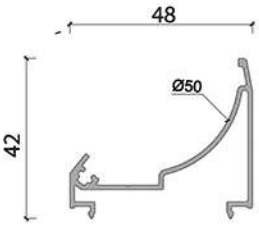
Profile : ALN-212	Weight : 870 gr/m



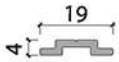
Profile : ALN-225	Weight : 548 gr/m



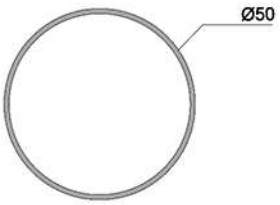
Profile : ALN-215	Weight : 648 gr/m



Profile : ALN-226	Weight : 456 gr/m



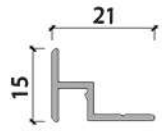
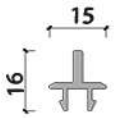
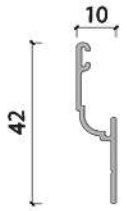
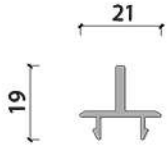
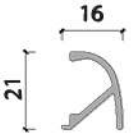
Profile : ALN-224	Weight : 110 gr/m



Profile : ALN-227	Weight : 540 gr/m

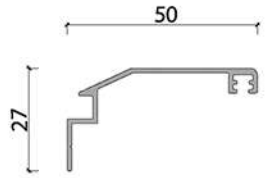
Hinged System 47 & 59 Series

Profile & Accessories Information

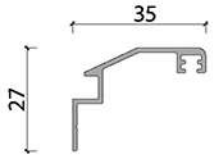
			
Profile : ALN-228	Weight : 135 gr/m	Profile : ALN-257	Weight : 149 gr/m
			
Profile : ALN-230	Weight : 195 gr/m	Profile : ALN-444	Weight : 344 gr/m
			
Profile : ALN-241	Weight : 194 gr/m	Drainge : ALN-229	Weight : 190 gr/m

Hinged System 47 & 59 Series

Profile & Accessories Information



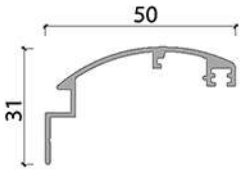
Flange profile: ALN-221	Weight : 300 gr/m



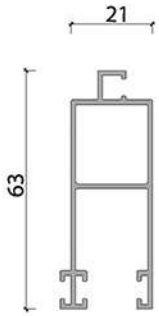
Flange profile: ALN-222	Weight : 255 gr/m



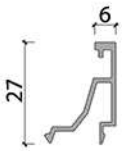
Fly screen : ALN-207	Weight: 448 gr/m



Flange profile: ALN-219	Weight : 360 gr/m



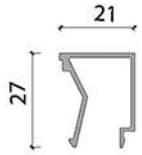
Fly screen : ALN-220	Weight: 626 gr/m



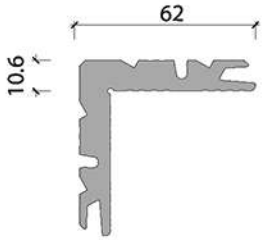
Glazing beads: ALN-213	Weight : 210 gr/m

Hinged System 47 & 59 Series

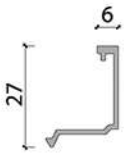
Profile & Accessories Information



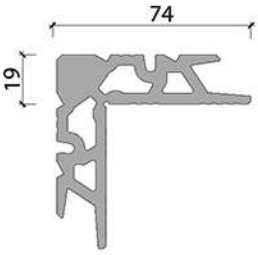
Glazing beads: ALN-214	Weight : 270 gr/m



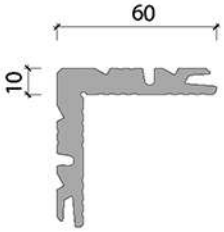
Corner joint: PCP-11	Weight : 2550 gr/m



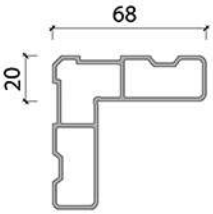
Glazing beads: ALN-424	Weight : 169 gr/m



Corner: PCP 19	Weight : 3499 gr/m



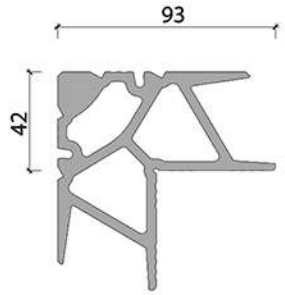
Corner joint: PCP-10	Weight : 2455 gr/m

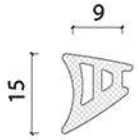


Corner: PCP 20	Weight : 1375 gr/m

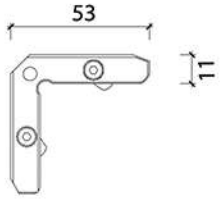
Hinged System 47 & 59 Series

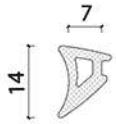
Profile & Accessories Information



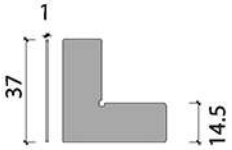


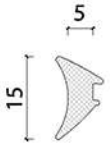
Corner joint: PCP-42	Weight : 5130 gr/m	Gasket: EP-021	Weight : 80 gr/m





Corner Joint: Fuji 2013	Weight : –	Gasket: EP-019	Weight : 61 gr/m

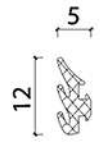
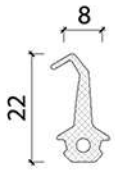
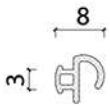
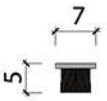
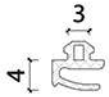
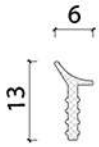




Corner Joint : MM 55	Weight : 126 gr/m	Gasket: EP-016	Weight : 77 gr/m

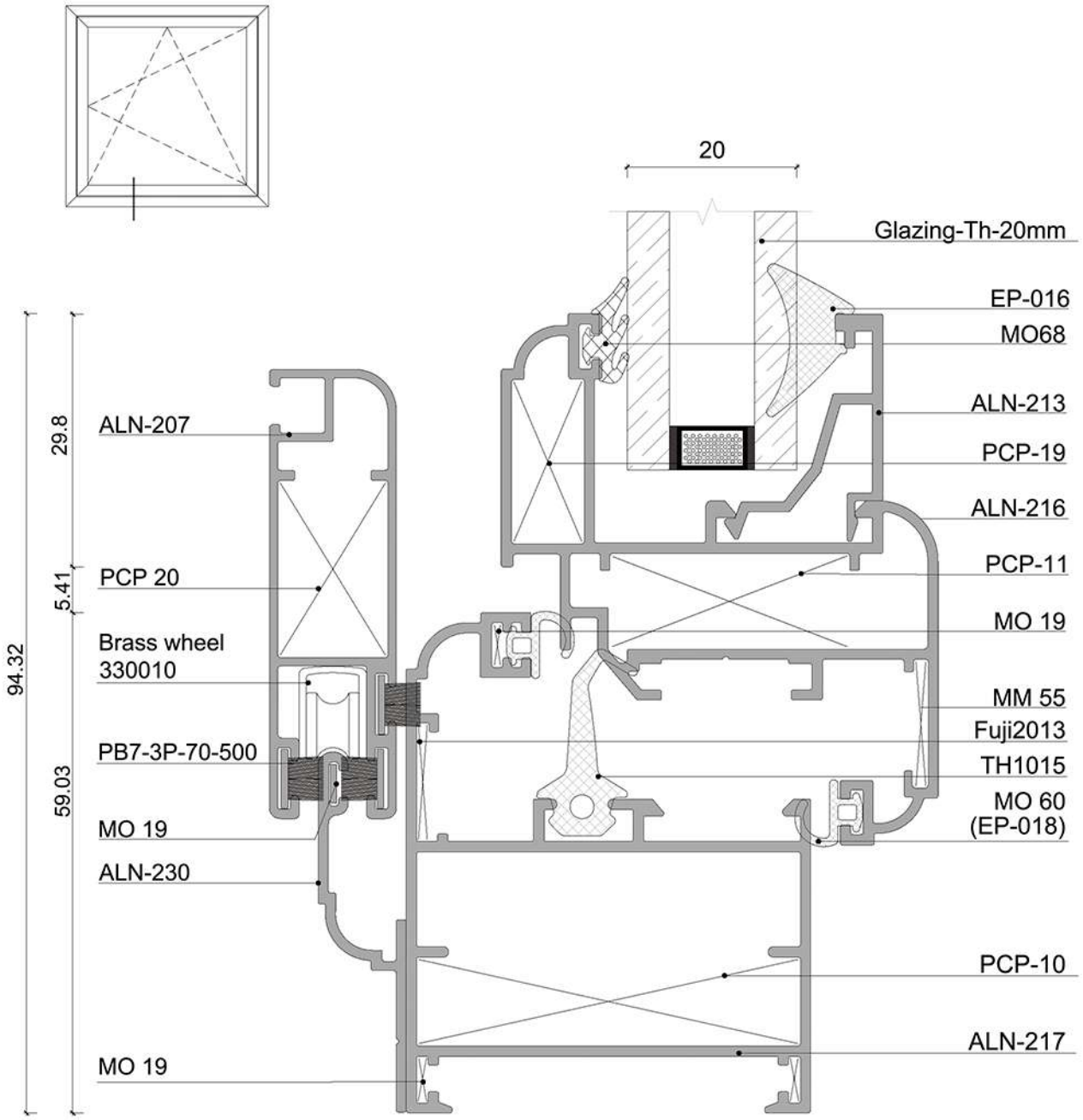
Hinged System 47 & 59 Series

Profile & Accessories Information

			
Gasket: MO68	Weight : –	Gasket: 1015	Weight : –
			
Gasket: EP-018	Weight : 27 gr/m	PB7-3P-70-500	Weight: –
			
Gasket: 3523801	Weight : 35 gr/m	Gasket: EP-015	Weight : 21 gr/m
			
Gasket: Mo 60	Weight : 26 gr/m		

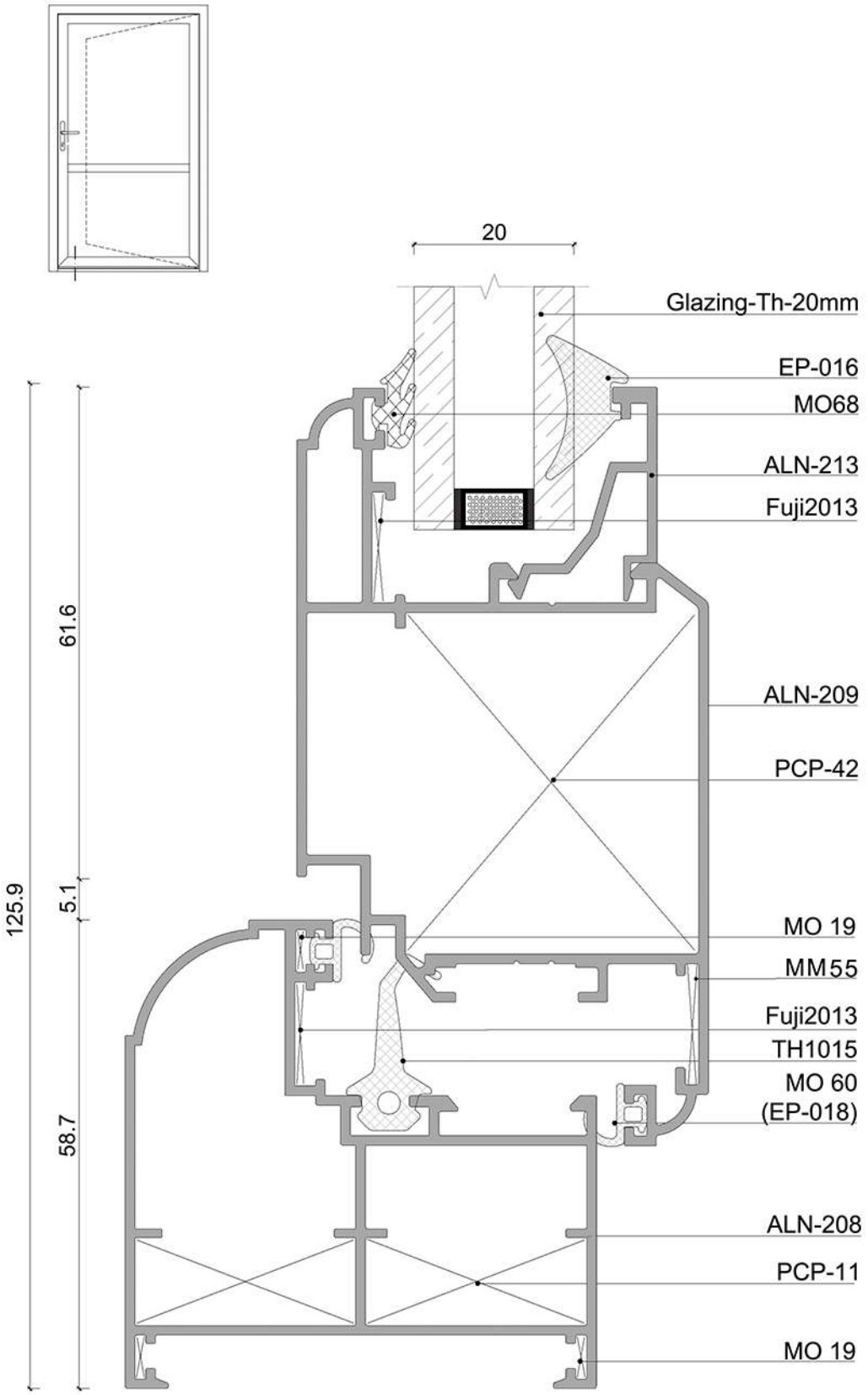
Hinged System 47 & 59 Series

Fabrication Detailes



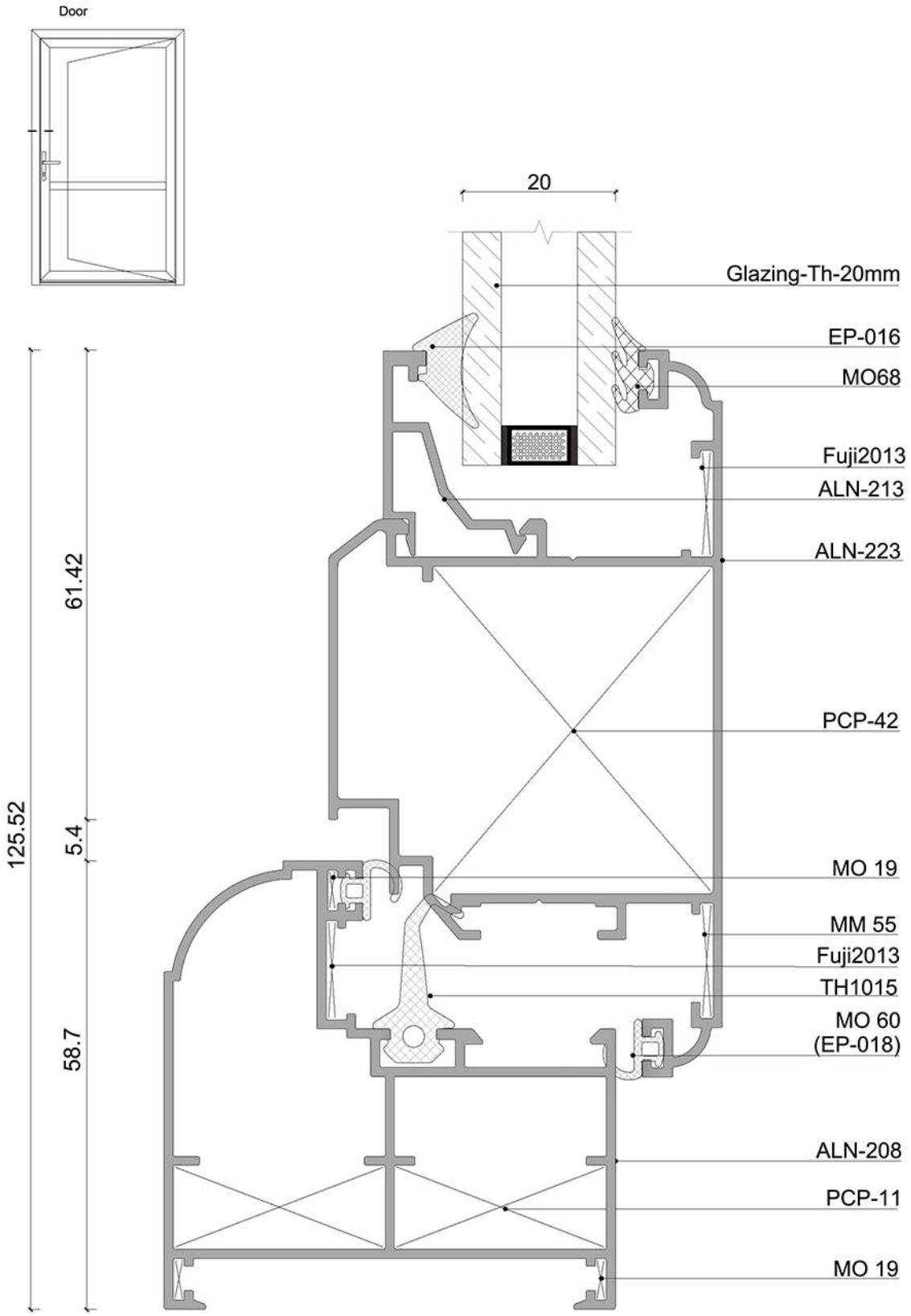
Hinged System 47 & 59 Series

Fabrication Detailes



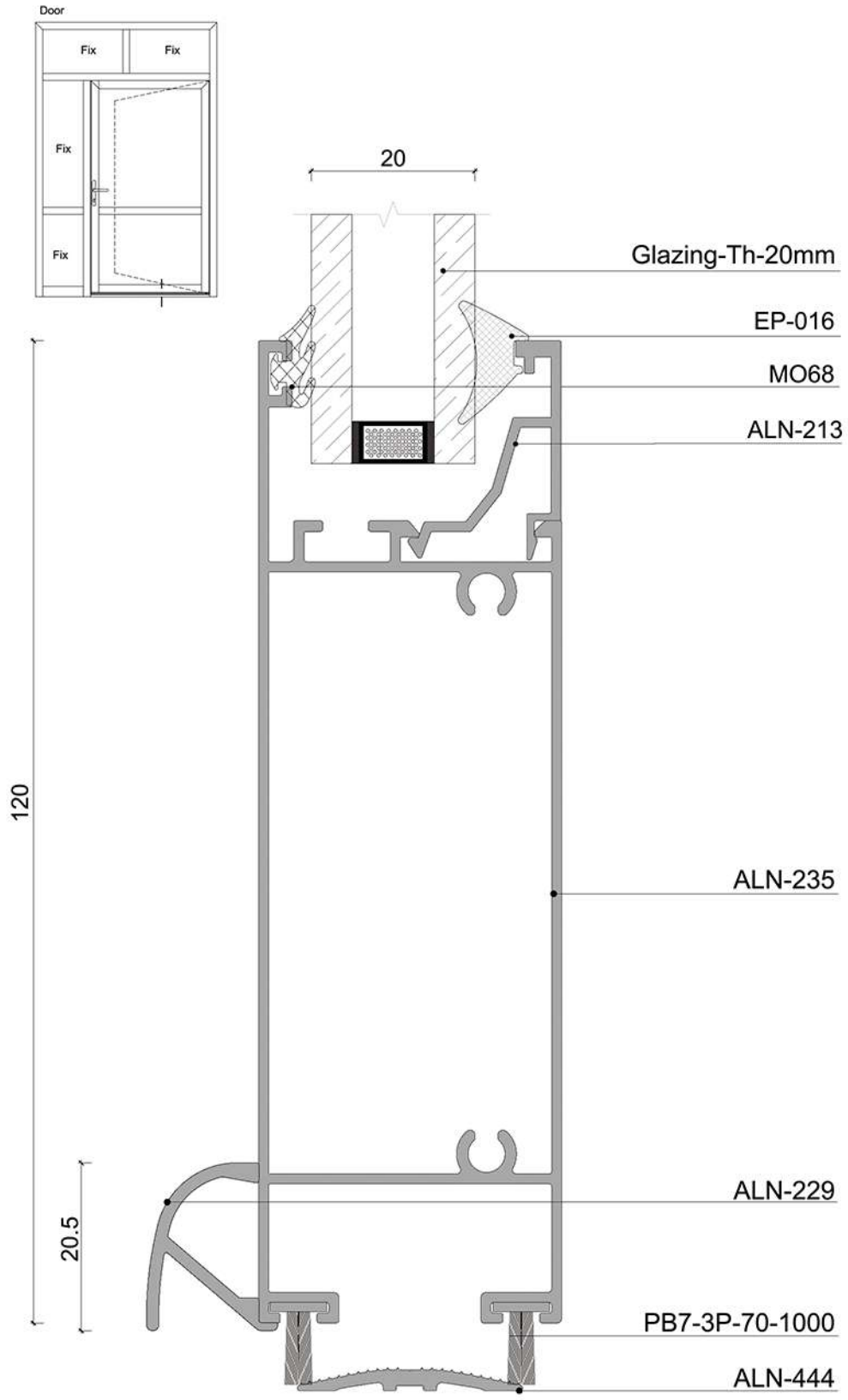
Hinged System 47 & 59 Series

Fabrication Detailes



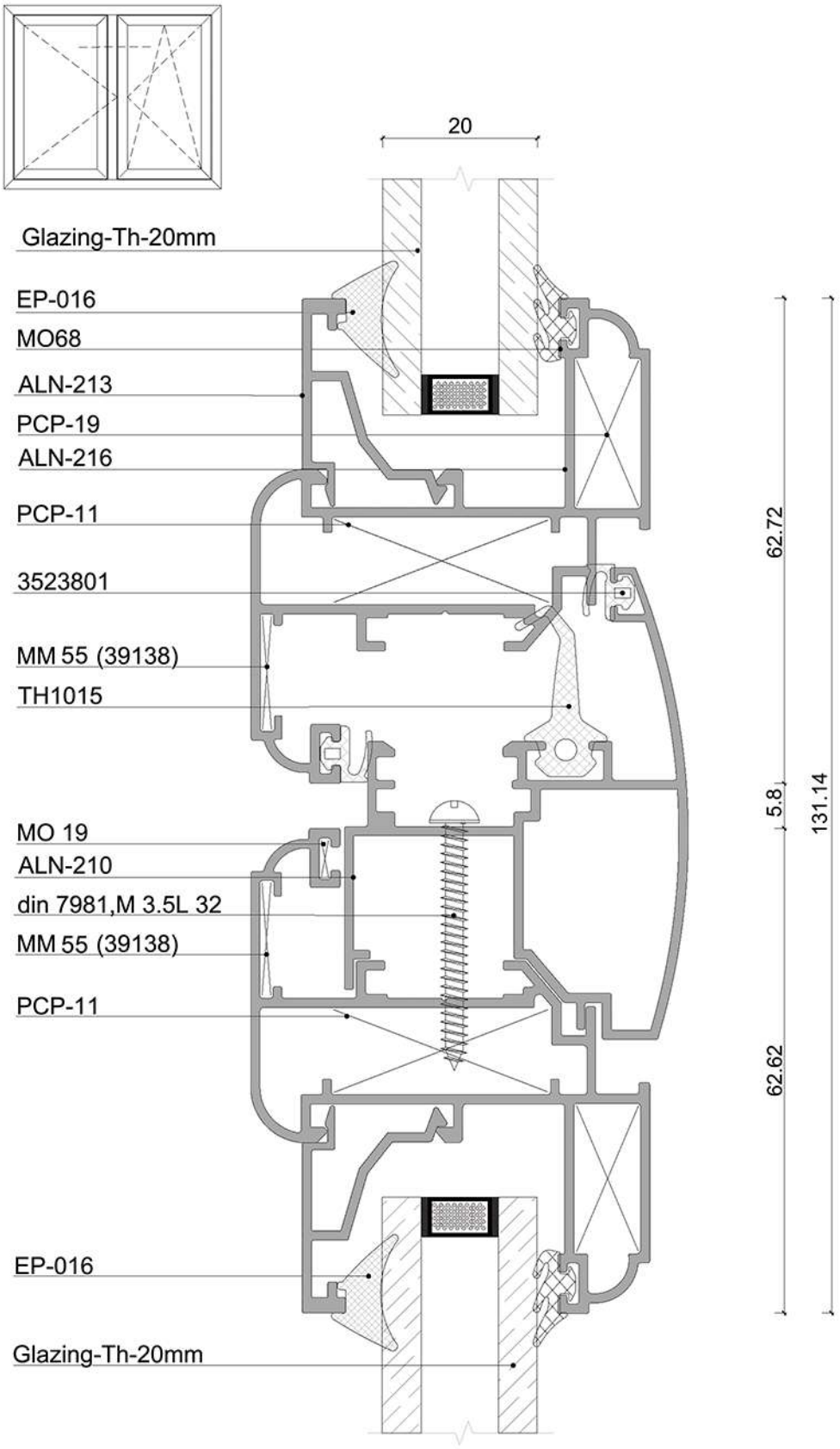
Hinged System 47 & 59 Series

Fabrication Detailes



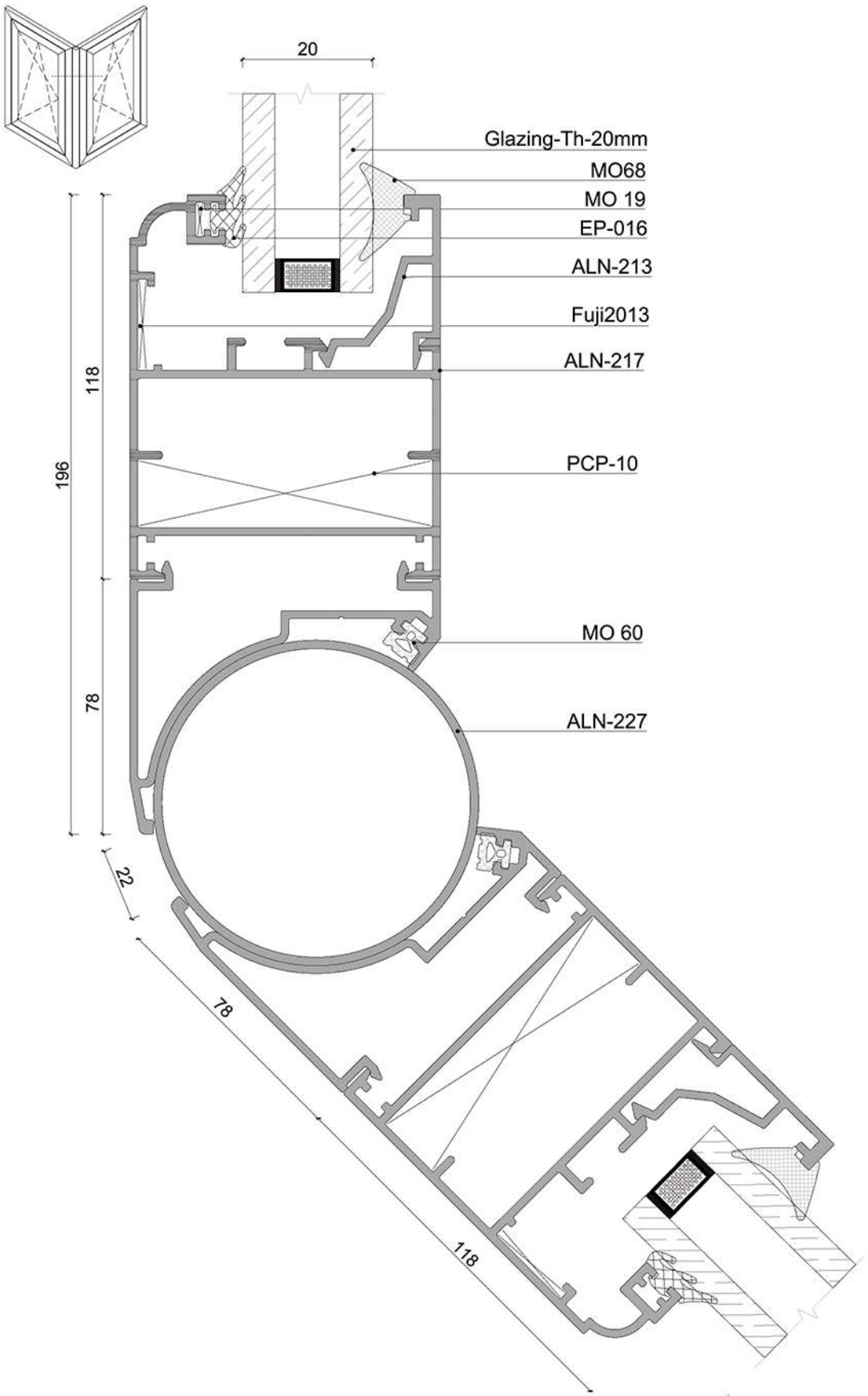
Hinged System 47 & 59 Series

Fabrication Detailes



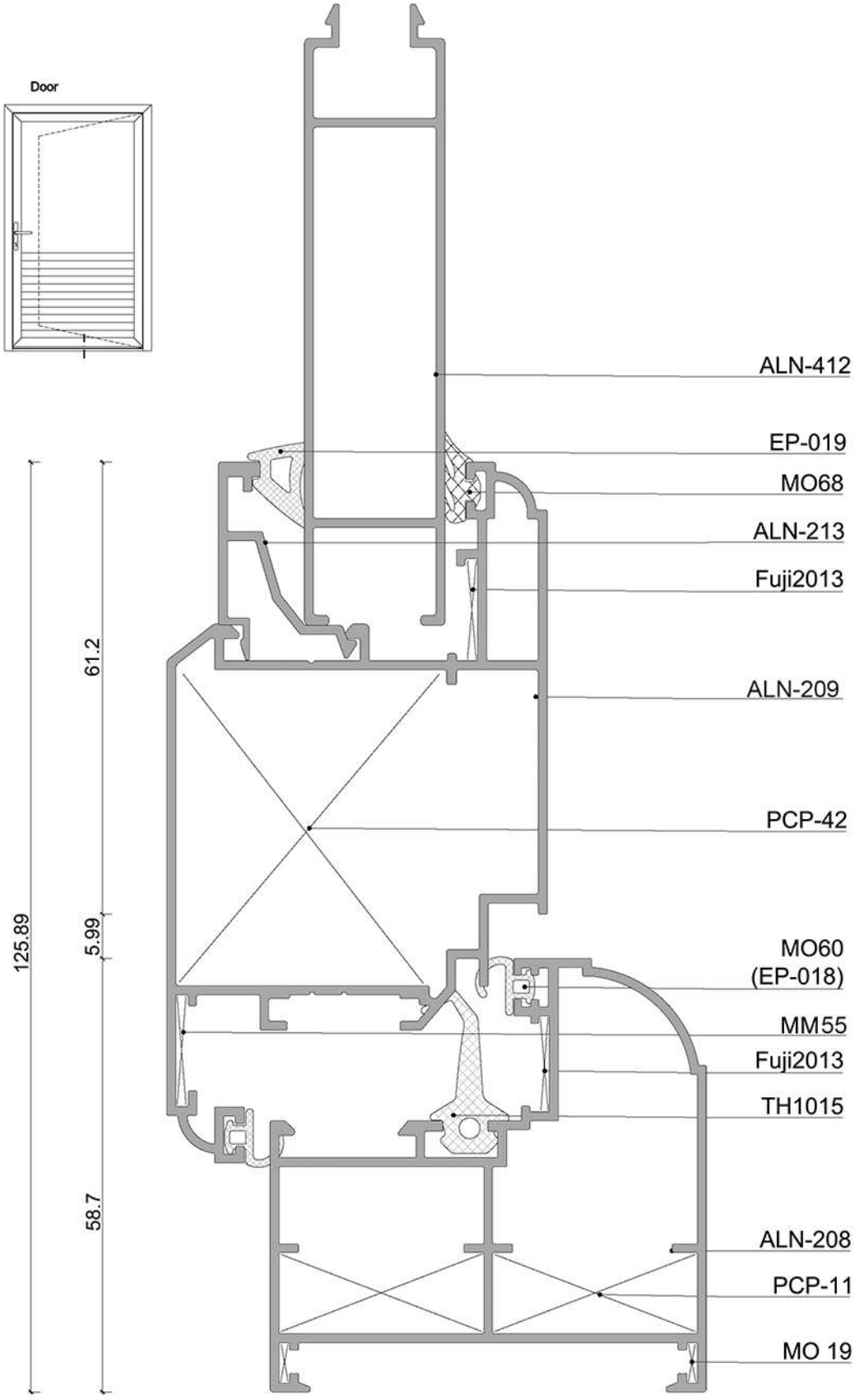
Hinged System 47 & 59 Series

Fabrication Detailes



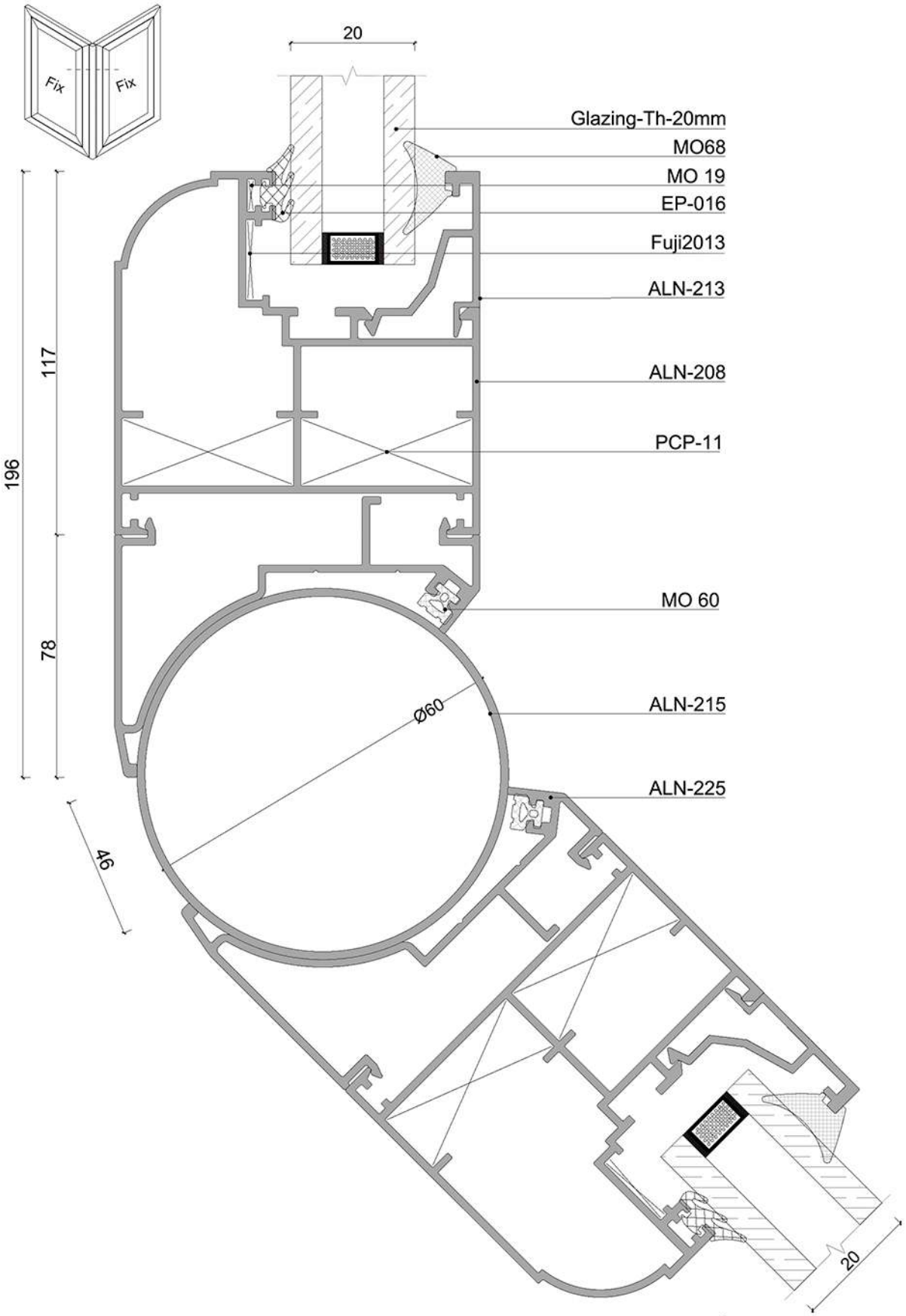
Hinged System 47 & 59 Series

Fabrication Detailes



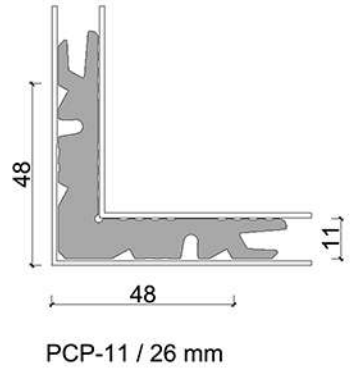
Hinged System 47 & 59 Series

Fabrication Detailes

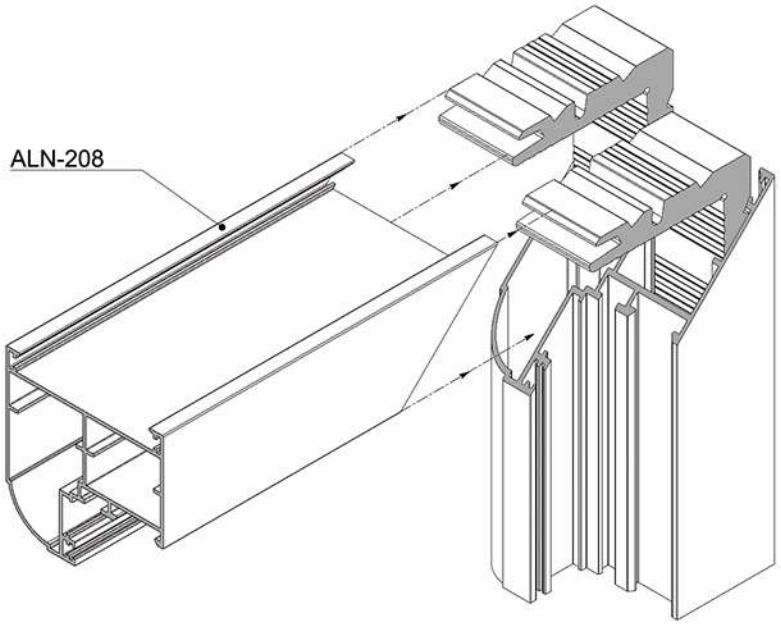


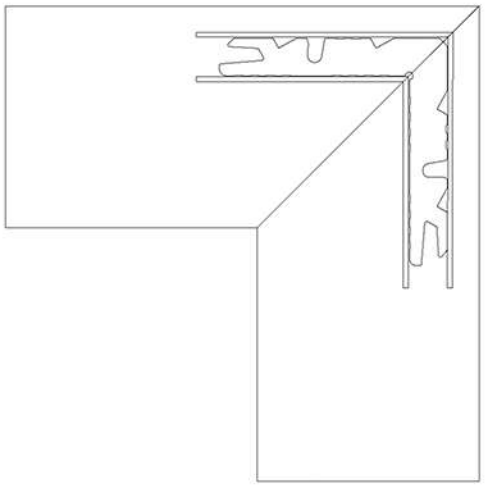
Hinged System 47 & 59 Series

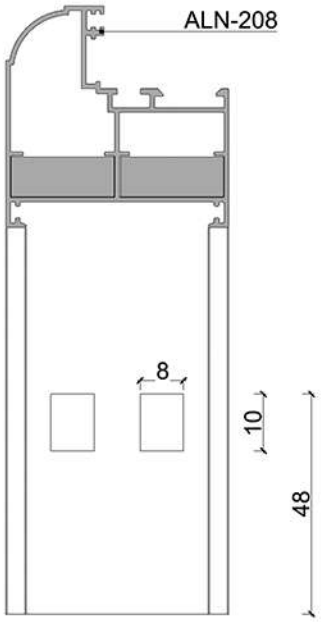
Assembly Drawing



PCP-11 / 26 mm

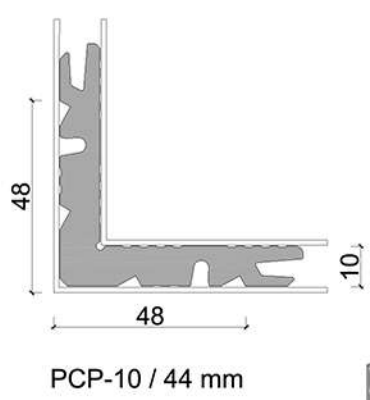




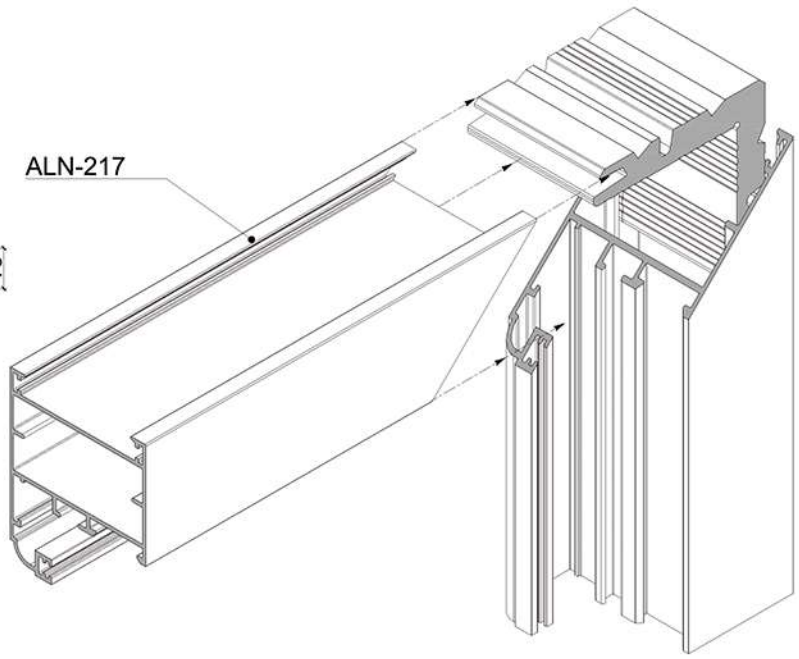


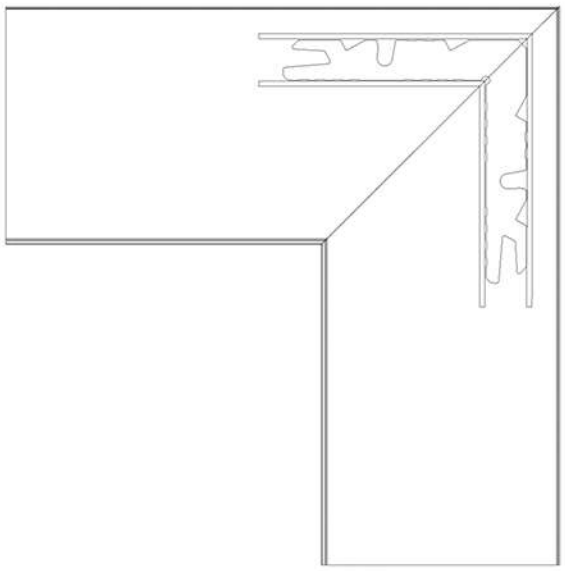
Hinged System 47 & 59 Series

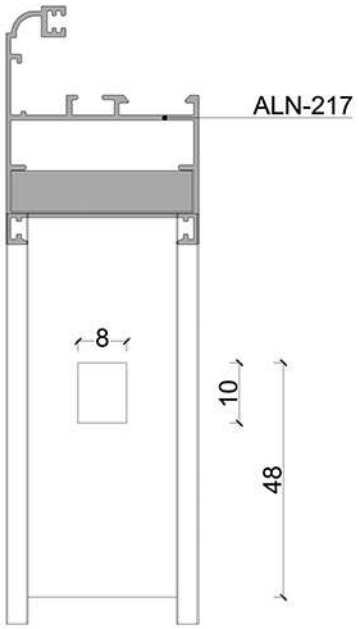
Assembly Drawing



PCP-10 / 44 mm

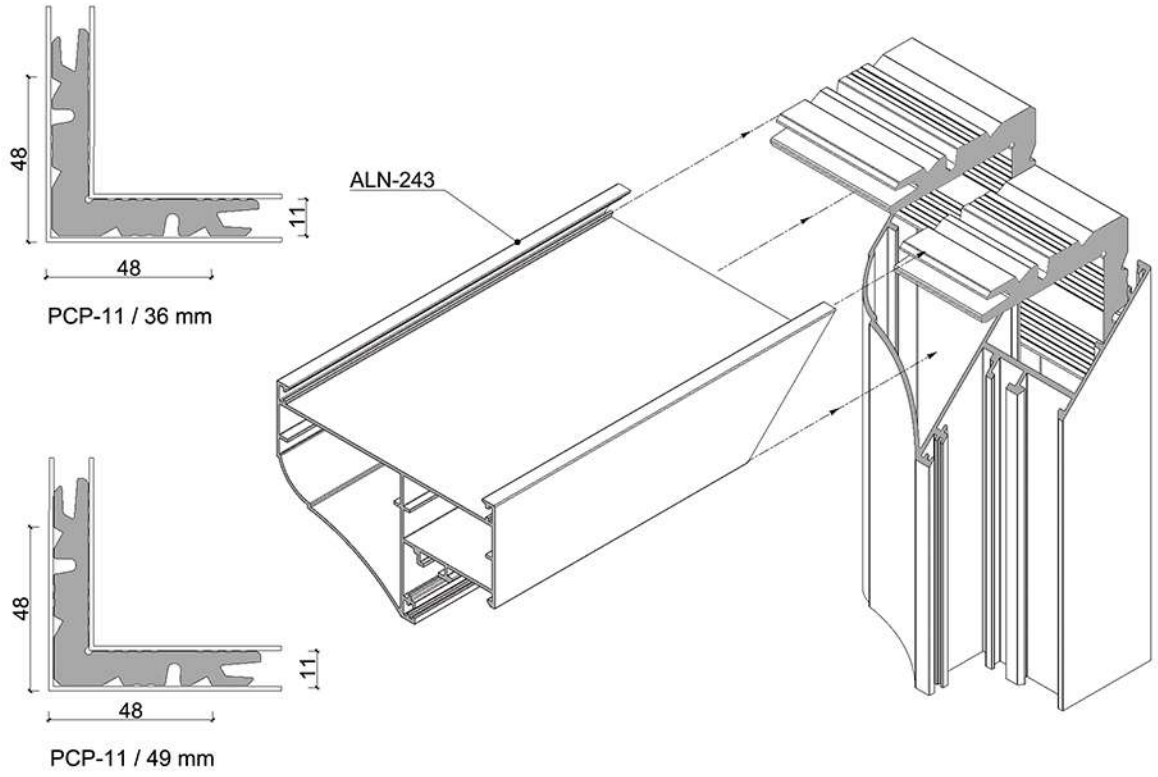


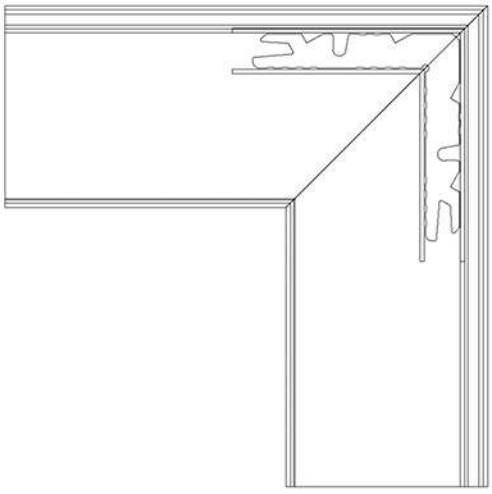


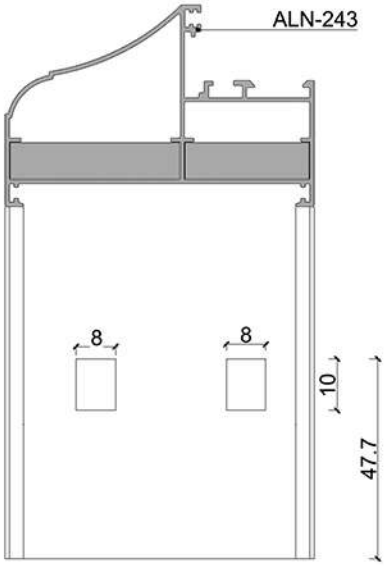


Hinged System 47 & 59 Series

Assembly Drawing

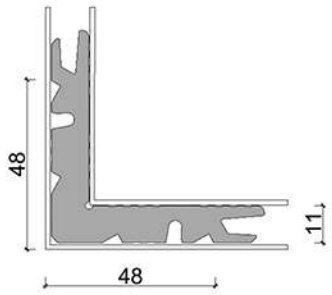




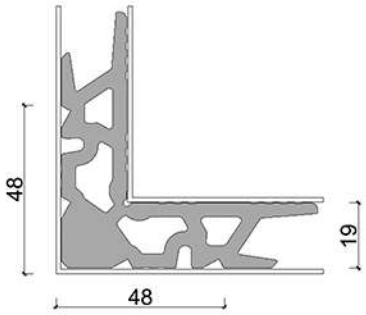


Hinged System 47 & 59 Series

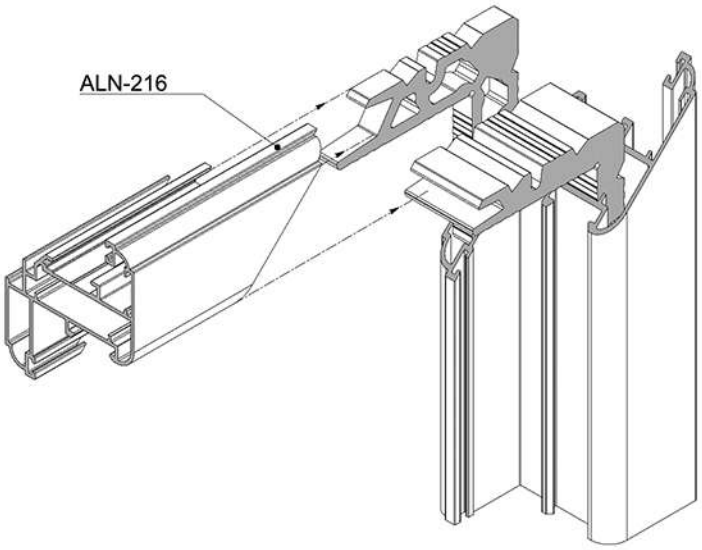
Assembly Drawing

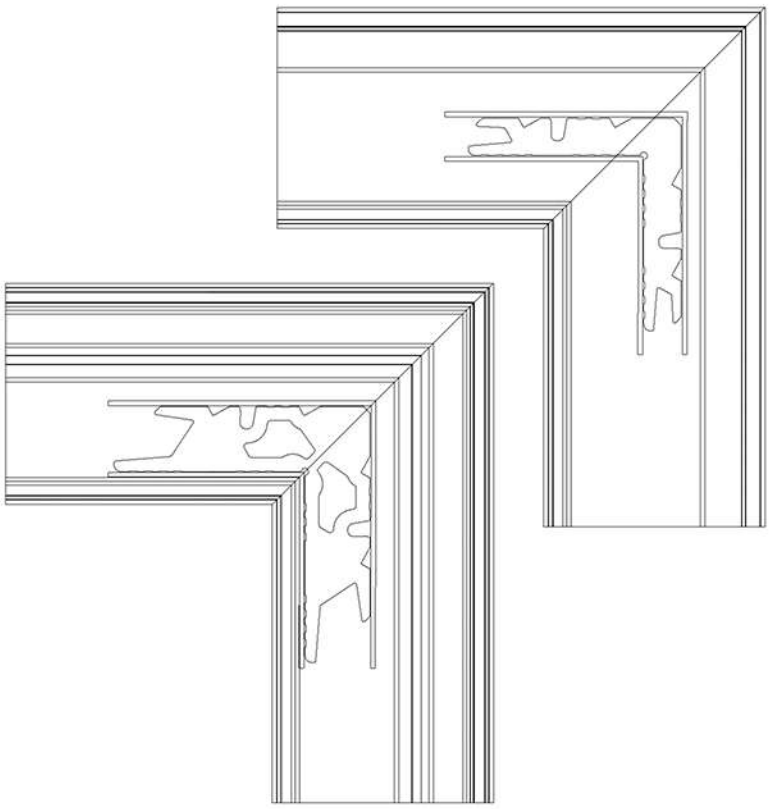


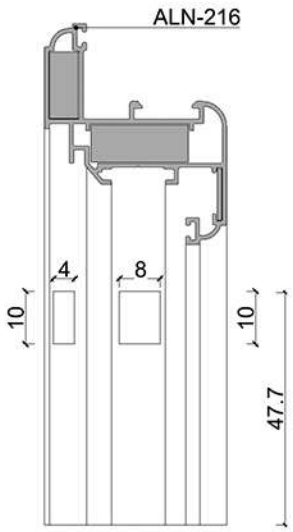
PCP-11 / 27 mm



PCP-19 / 8 mm

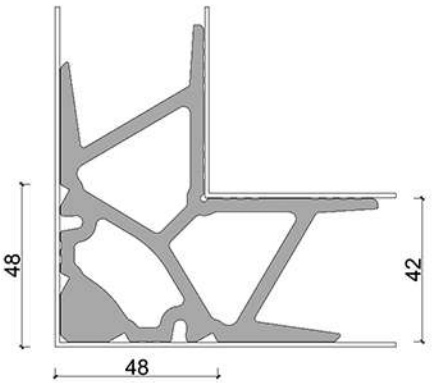




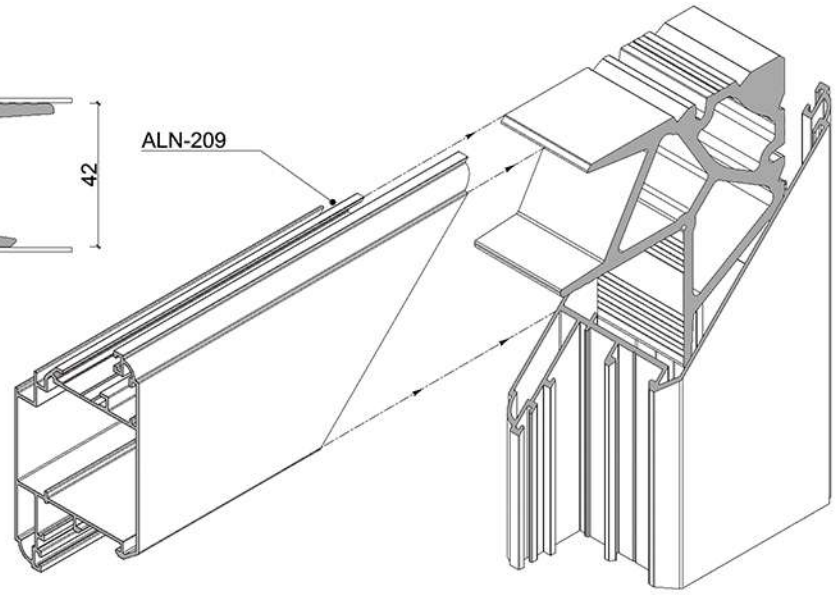


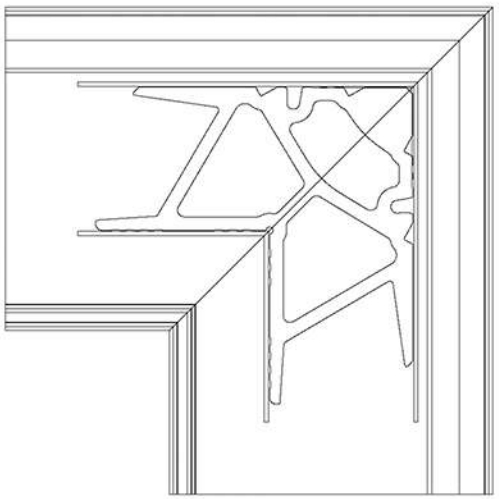
Hinged System 47 & 59 Series

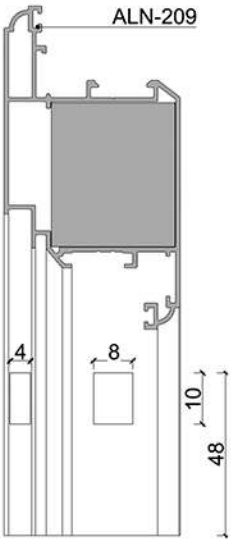
Assembly Drawing



PCP-42 / 35 mm



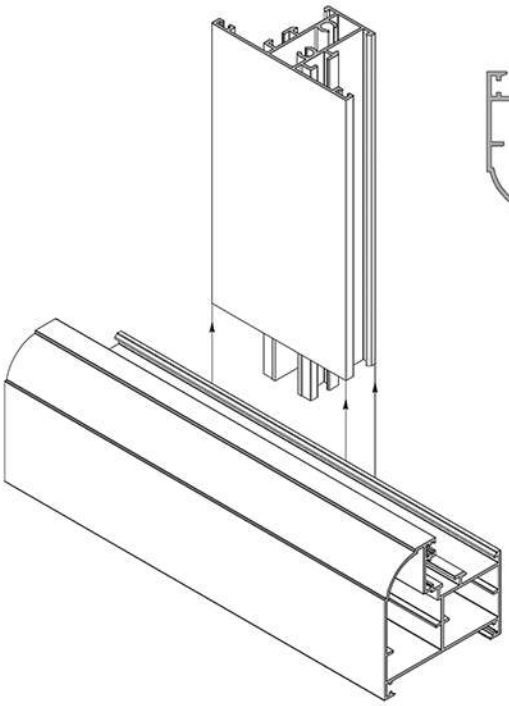


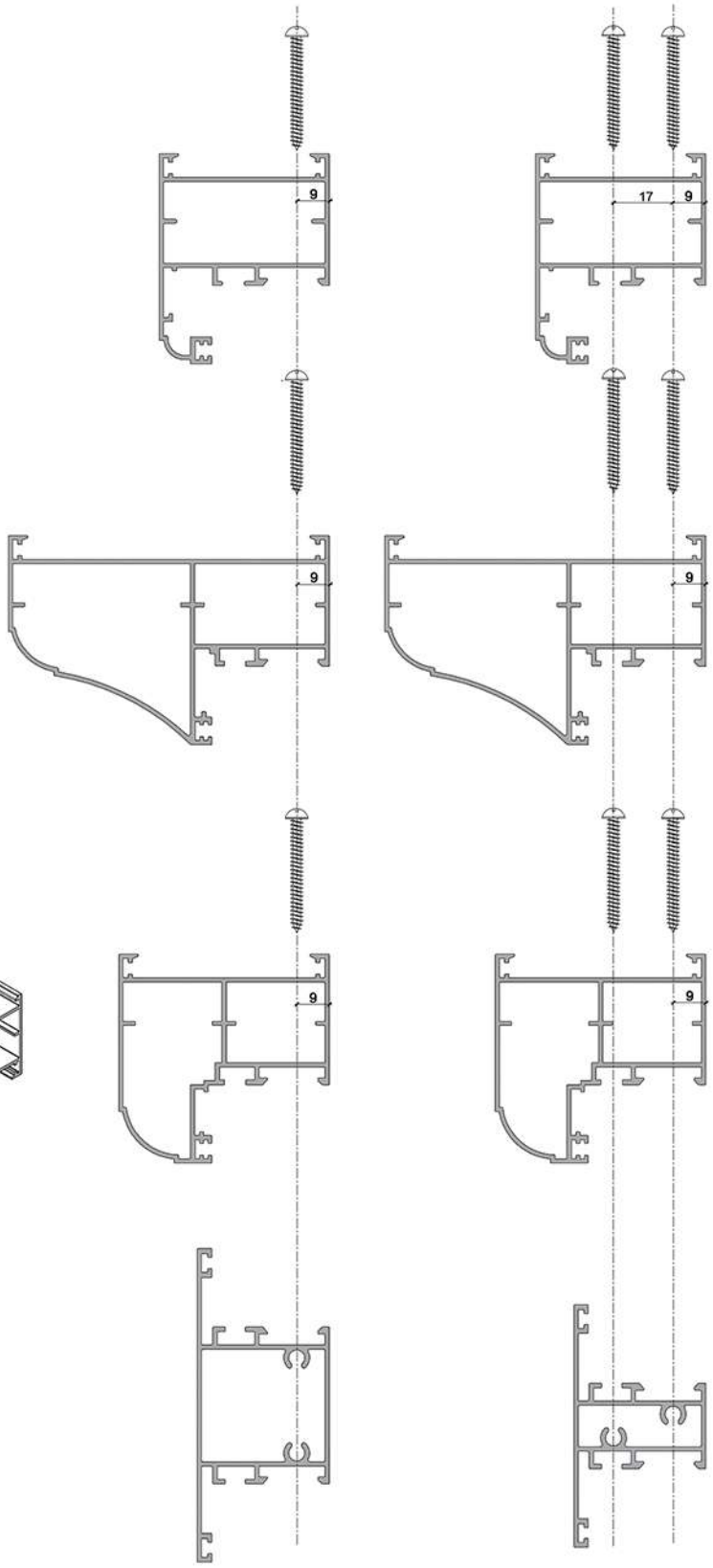


Hinged System 47 & 59 Series

Assembly Drawing

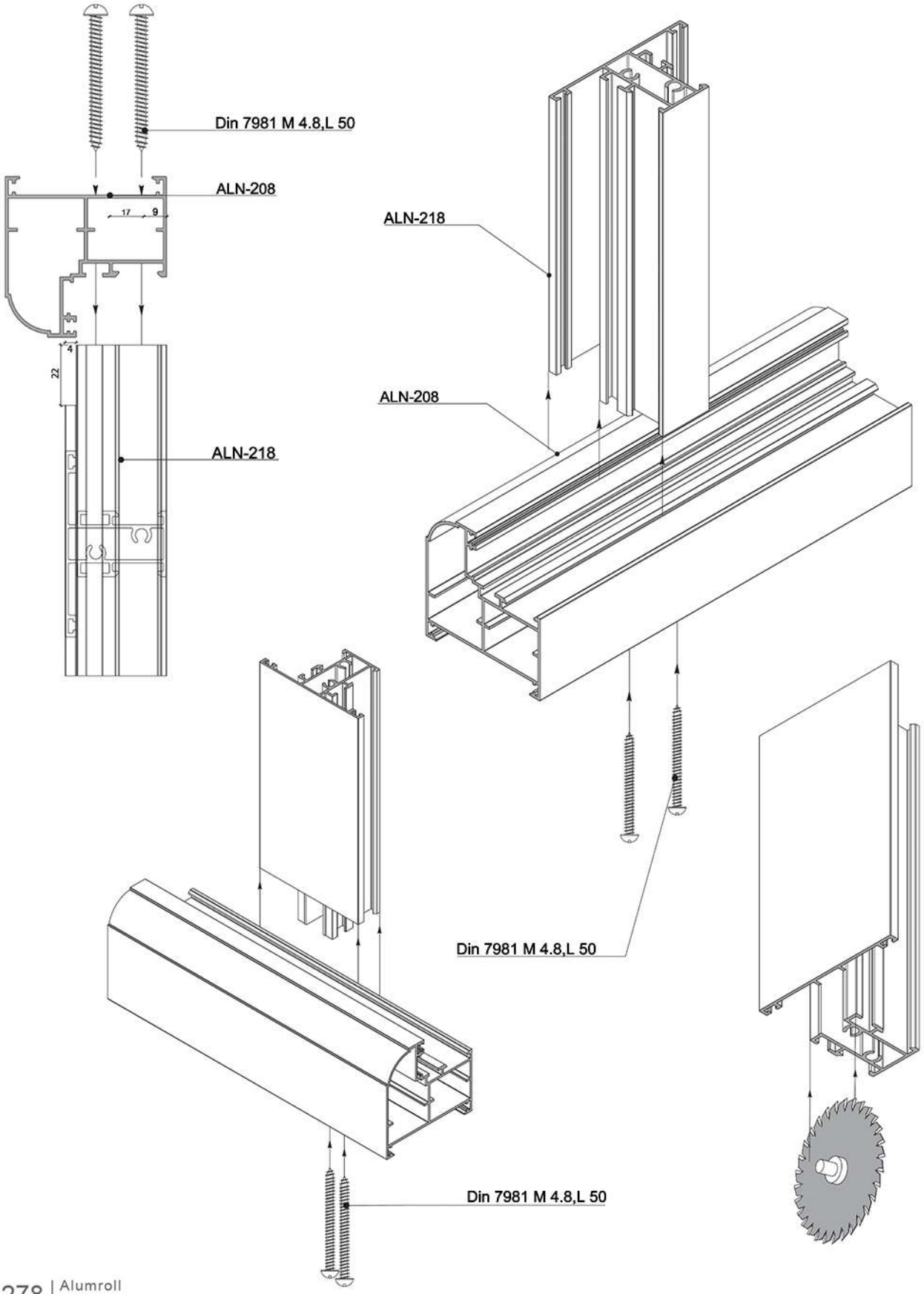
Connection - fram to transom





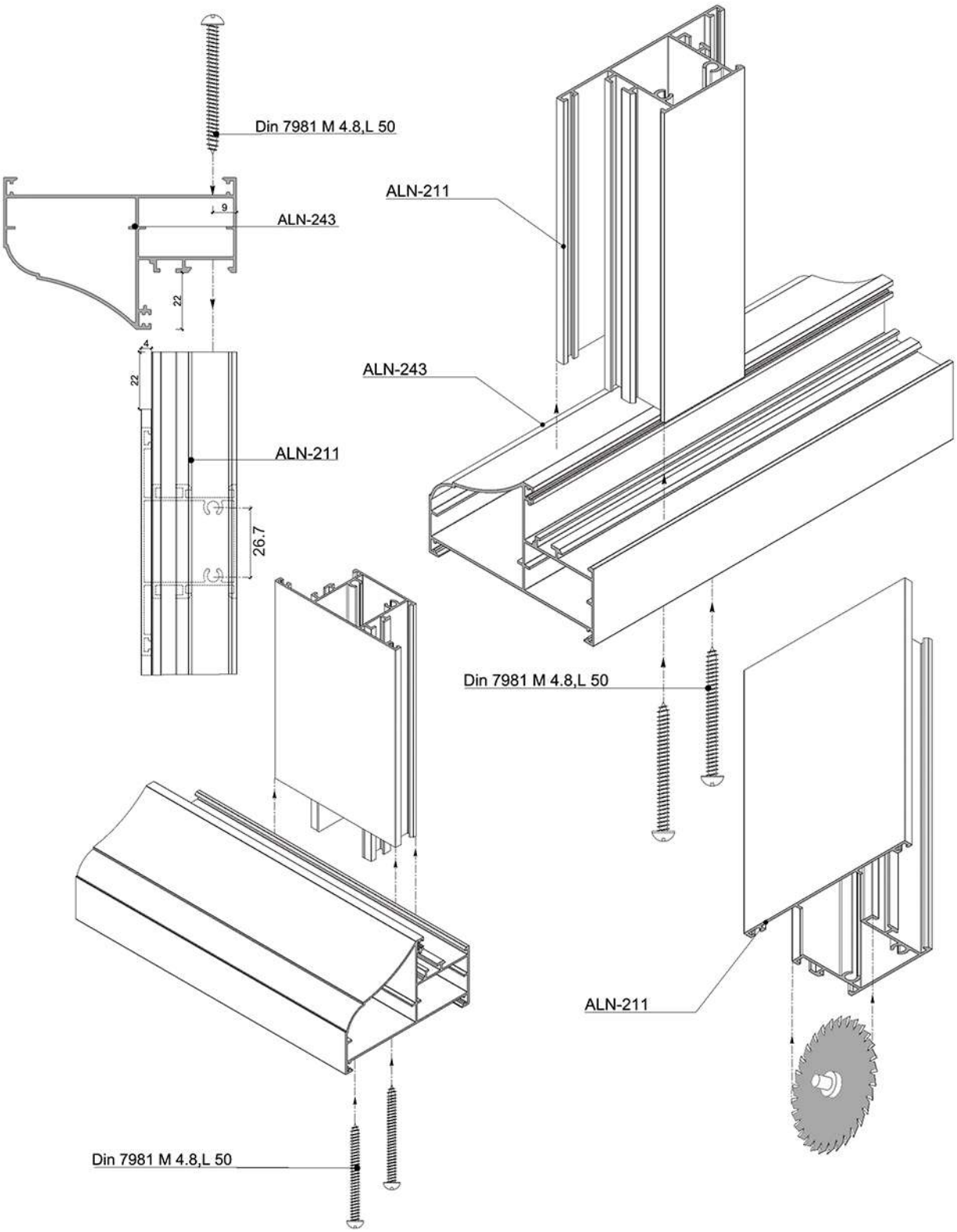
Hinged System 47 & 59 Series

Assembly Drawing



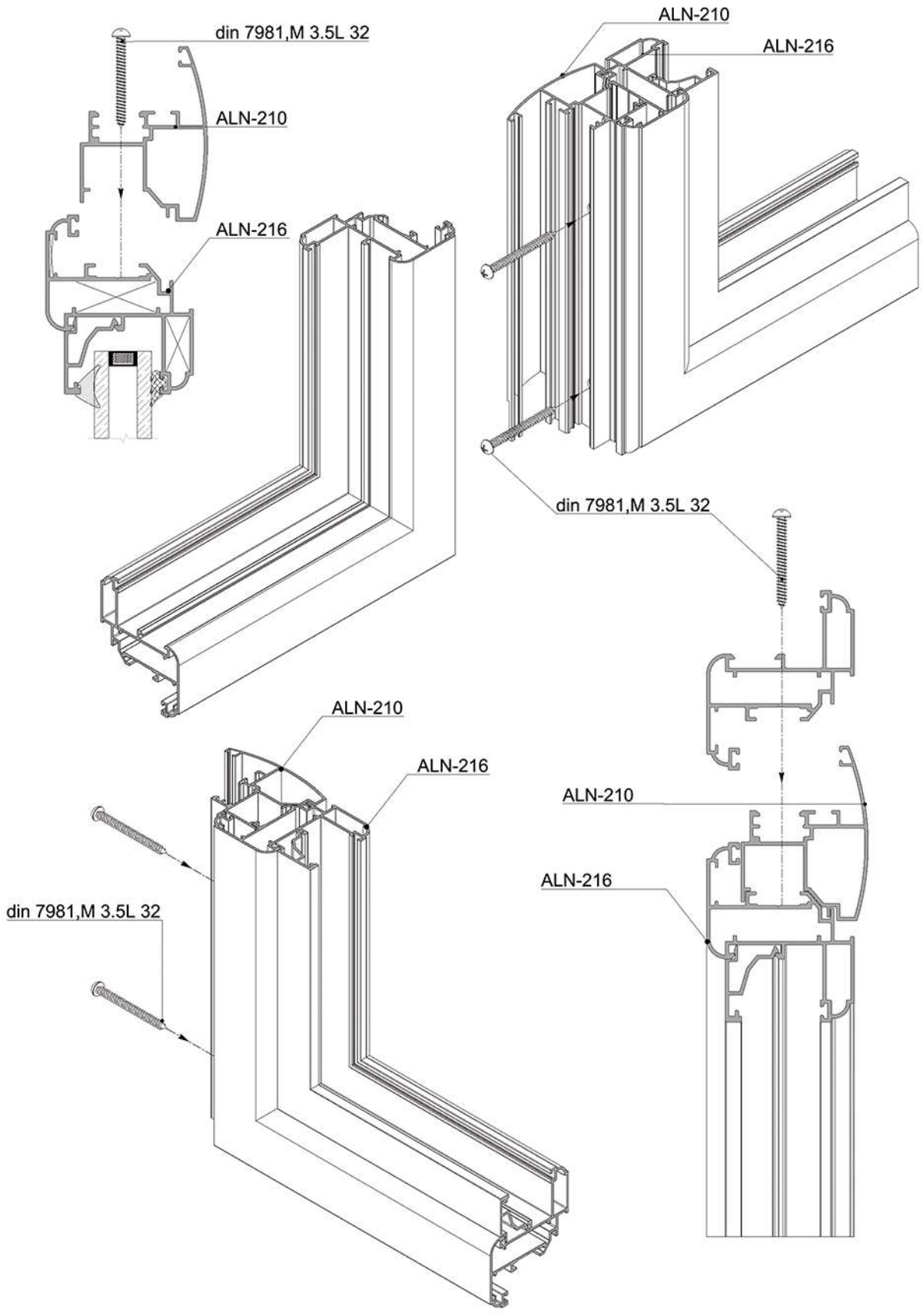
Hinged System 47 & 59 Series

Assembly Drawing



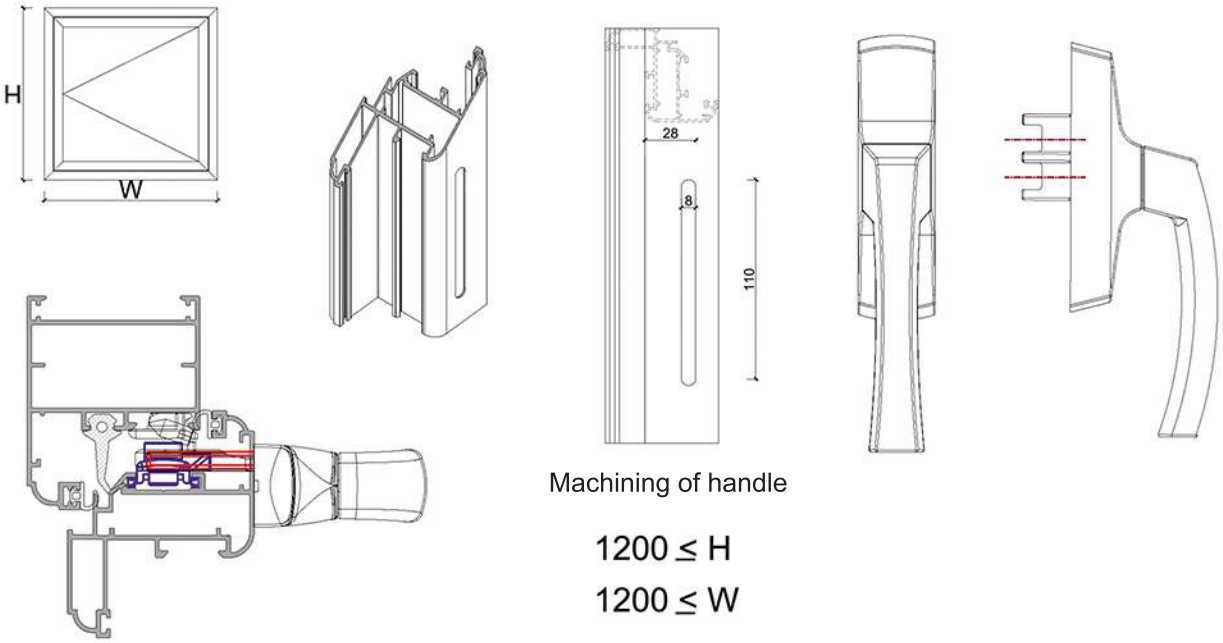
Hinged System 47 & 59 Series

Assembly Drawing



Hinged System 47 & 59 Series

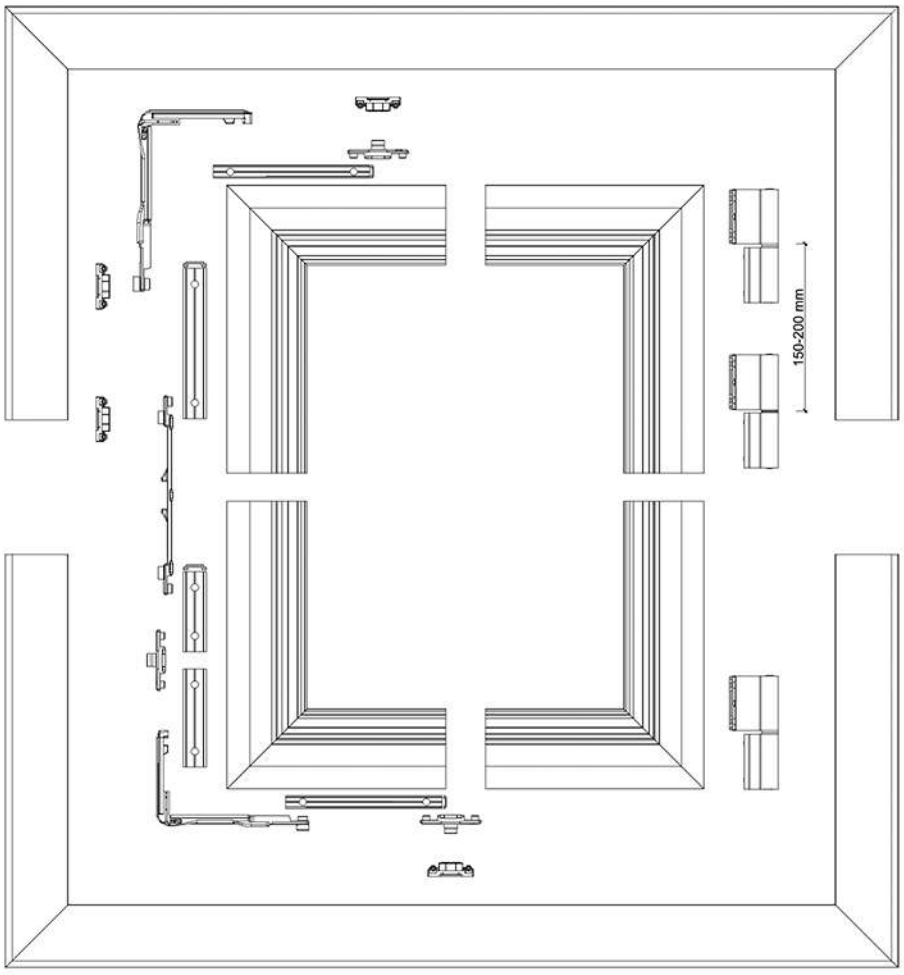
Hardware Installation



Machining of handle

$1200 \leq H$

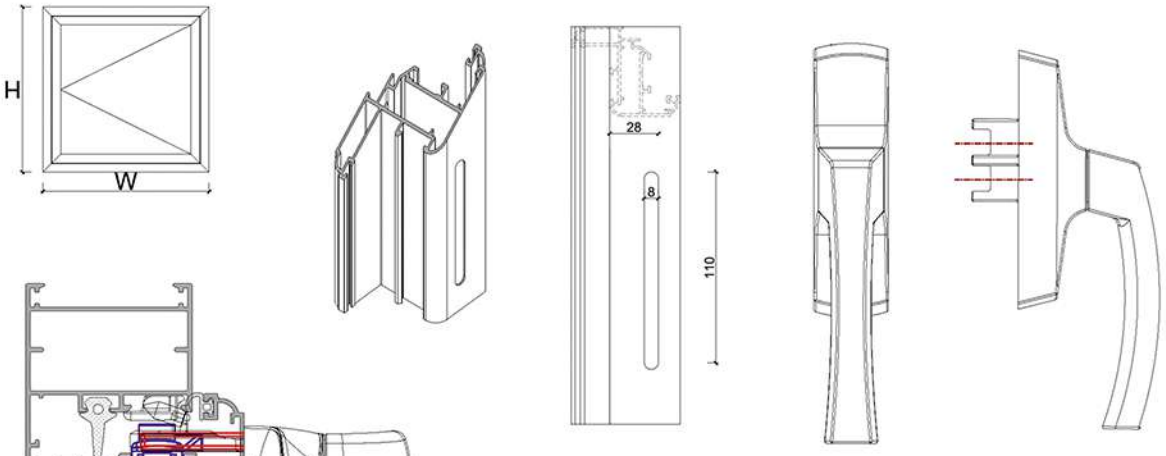
$1200 \leq W$



Installation of turn hardware

Hinged System 47 & 59 Series

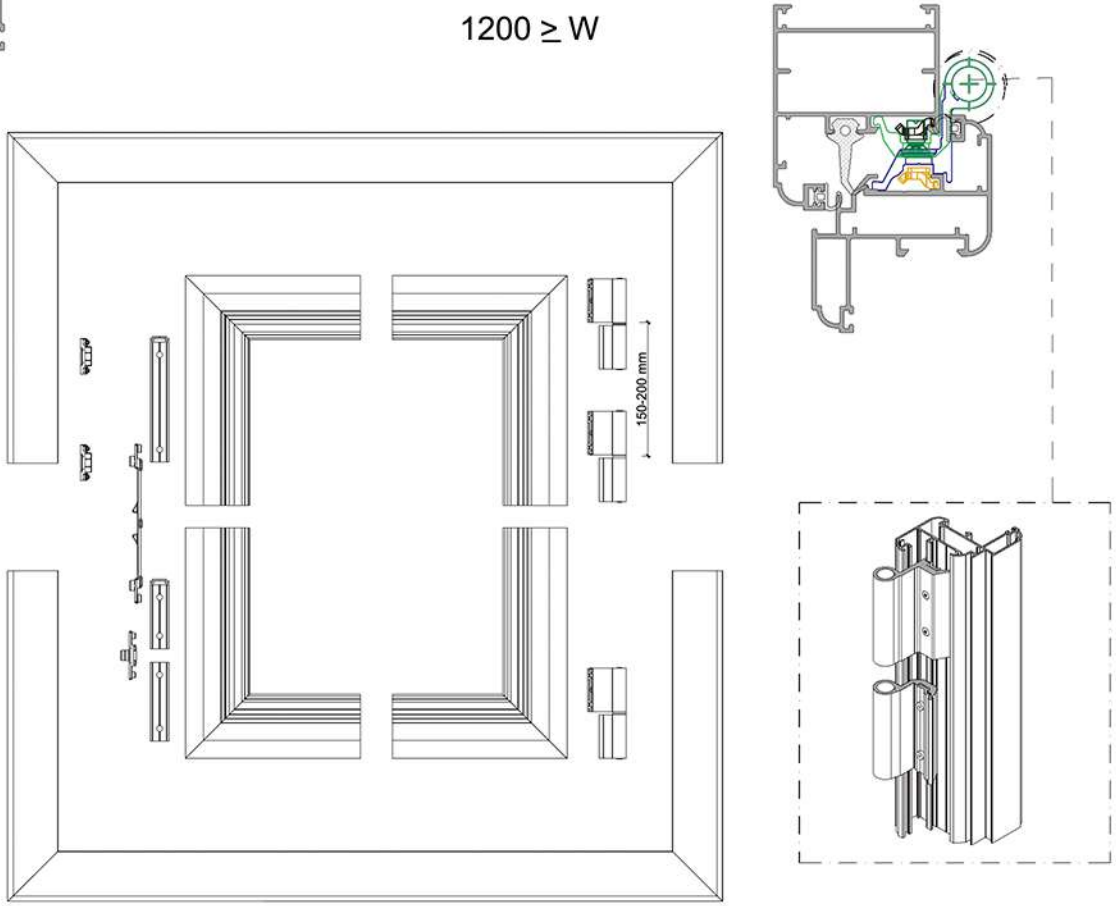
Assembly Drawing



Machining of handle

1200 ≥ H

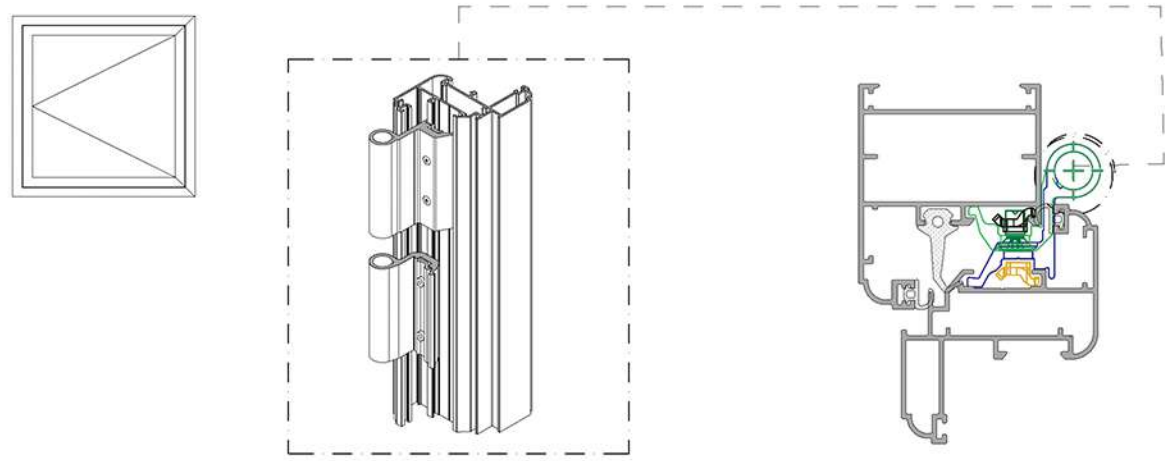
1200 ≥ W

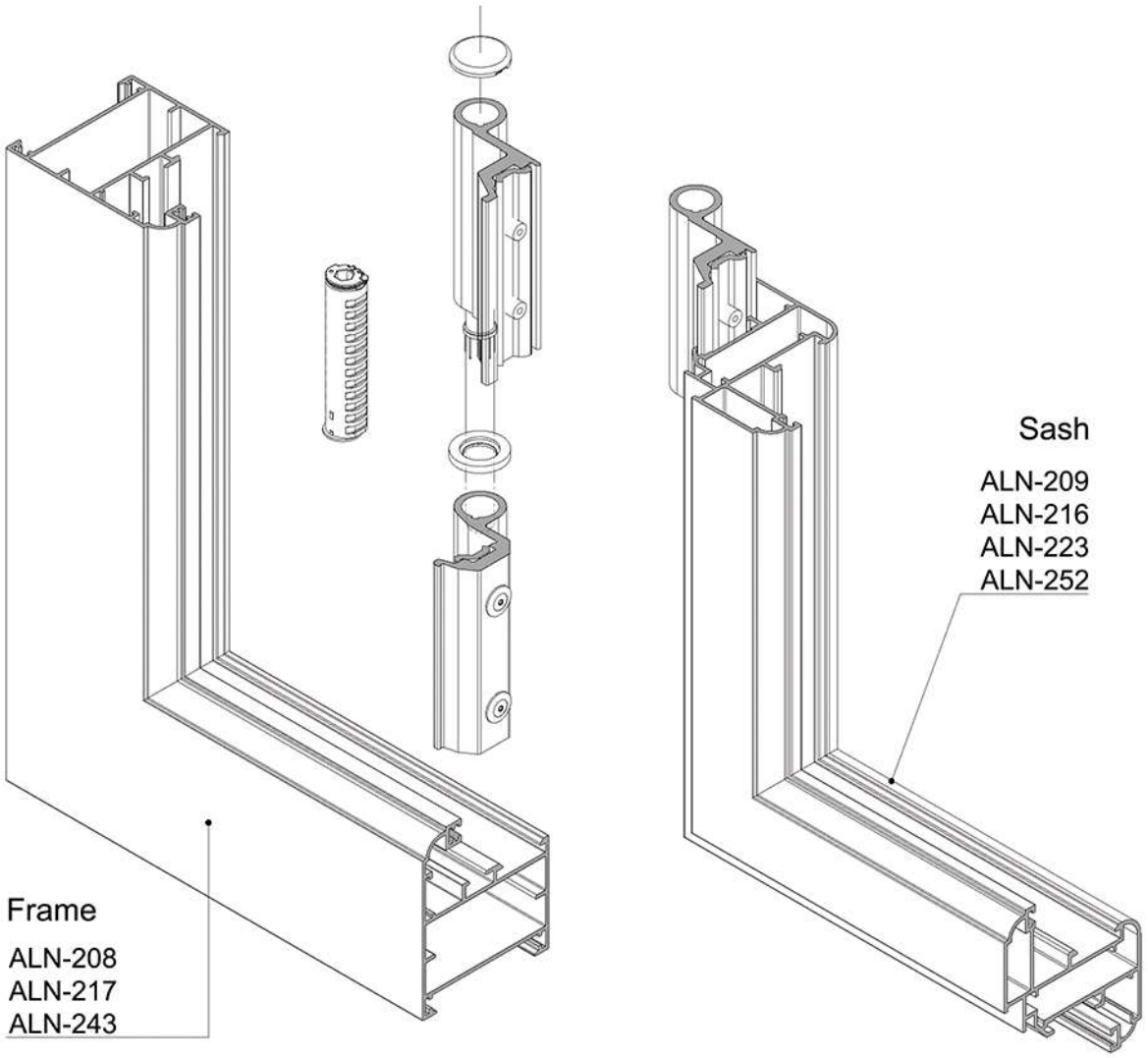


Installation of turn hardware

Hinged System 47 & 59 Series

Hardware Installation

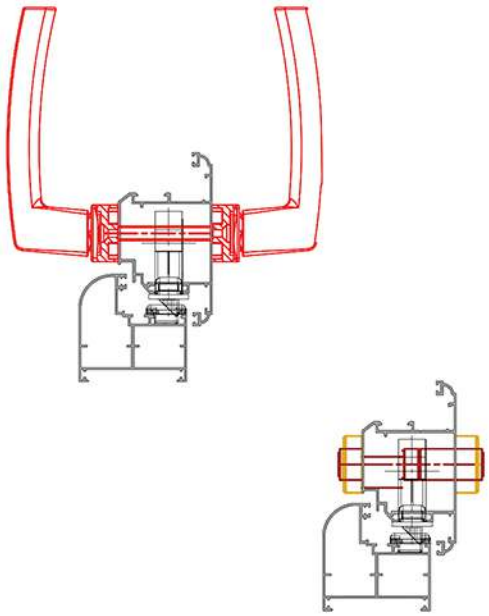




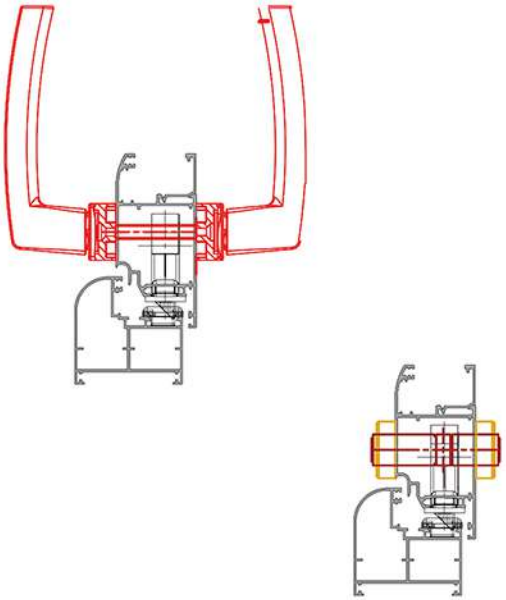
Hinged System 47 & 59 Series

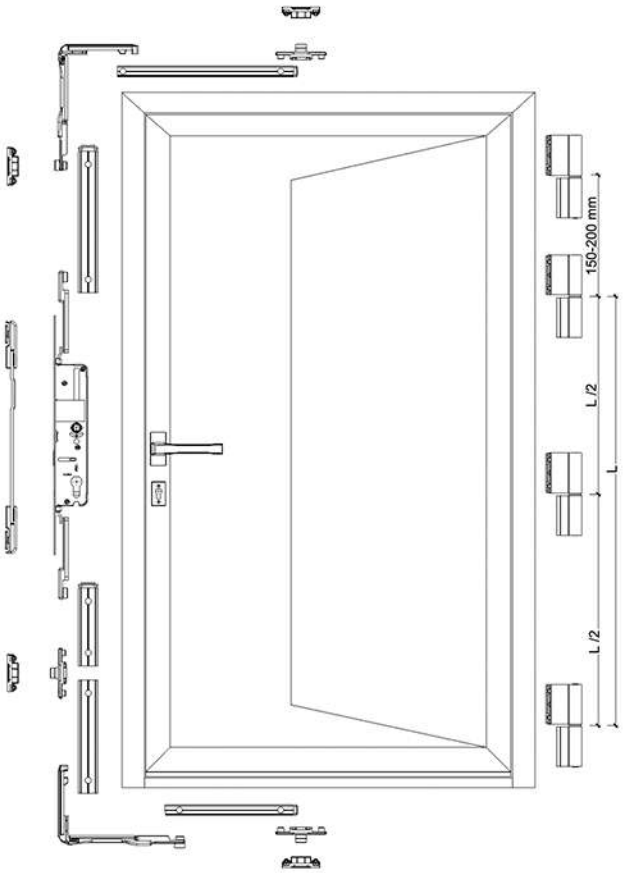
Hardware Installation

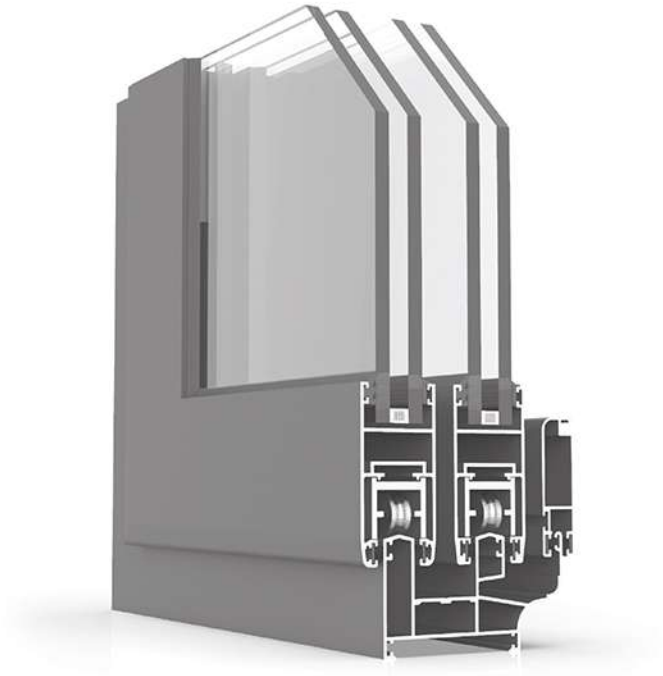
Outward opening



Inward opening

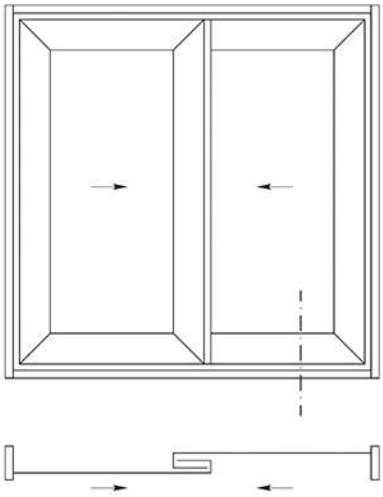


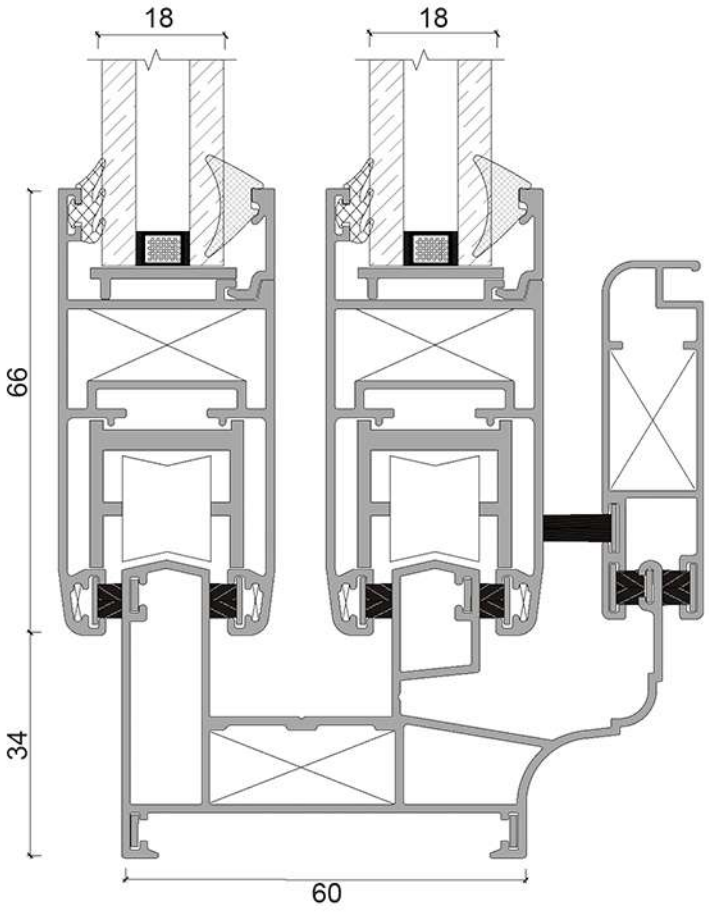




Slide System 60 Series

. Profile width:	60 - 100 mm
. Vent width:	32 mm
. Wall thickness:	1.2 -1.3 mm
. Rubber description:	EPDM DIN 7863
. Glass thickness:	6 - 20 m
. Aluminum alloy extrusion:	EN AW 6063 T5
. Safety drainage system	
. Various typologies	

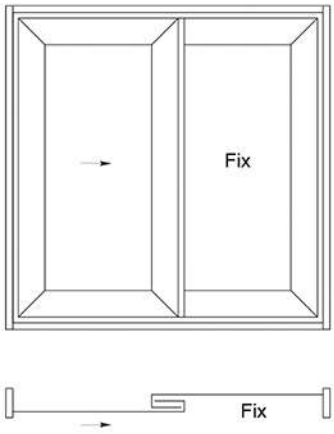


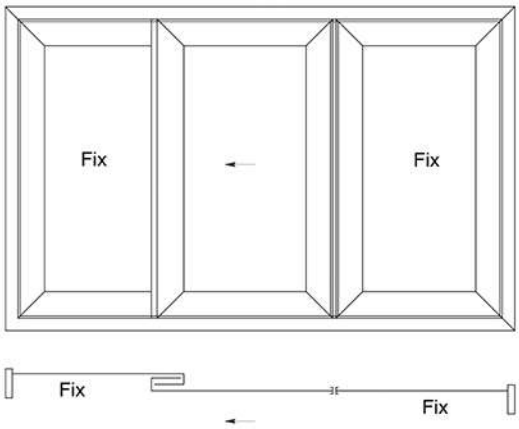


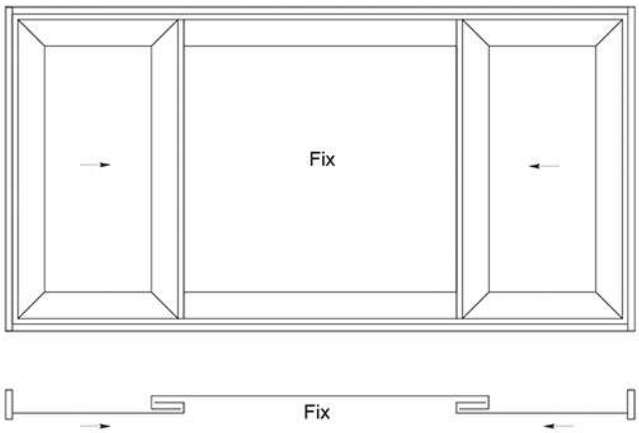
Slide System 60 Series

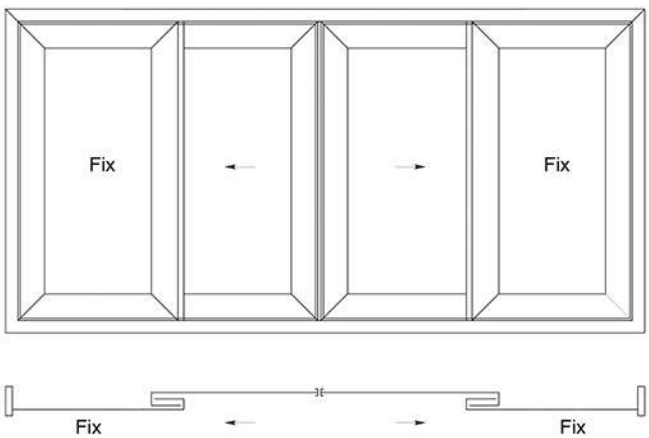
Typologies

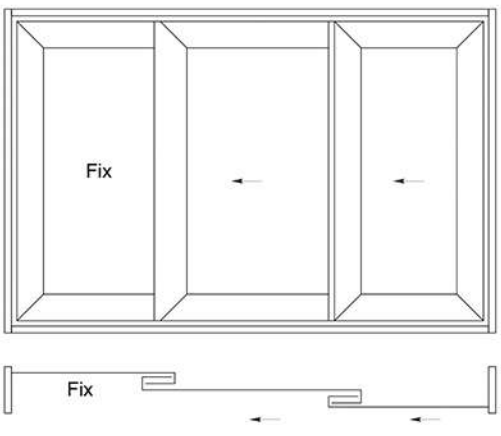








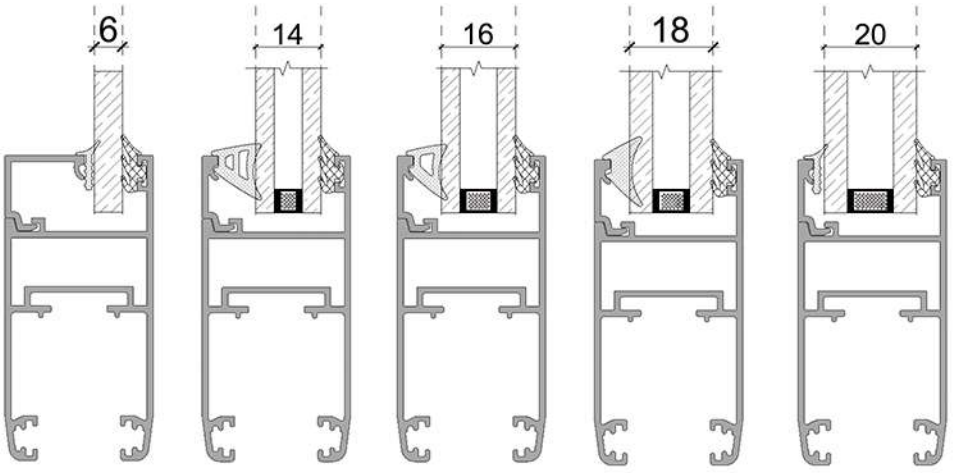




Slide System 60 Series

Glazing Table

ALN-231



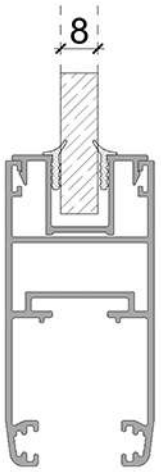
Glazing Thickness	Gasket Inside	Gasket Outside	Glazing Bead
6 mm	1.9 EP-015	MO68	ALN-234
14 mm	7.5 EP-021	MO68	ALN-233
16 mm	5.5 EP-019	MO68	ALN-233
18 mm	4.5 EP-016	MO68	ALN-233
20 mm	1.9 EP-015	MO68	ALN-233

Slide System 60 Series

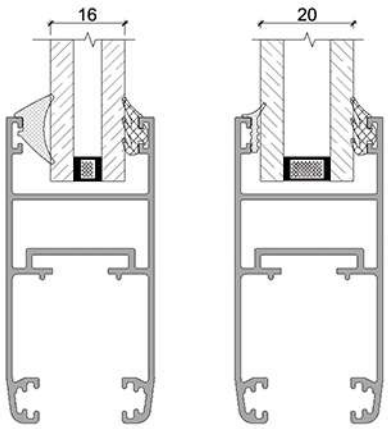
Glazing Table

ALN-203
ALN-236

Glazing Thickness	Gasket Inside	Gasket Inside	Glasing Adapter
8 mm	1.9 EP-015	1.9 EP-015	ALN-206

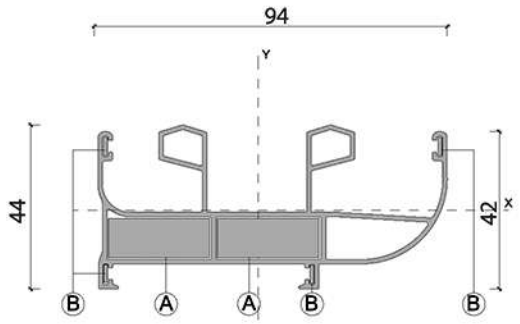


Glazing Thickness	Gasket Inside	Gasket Outside
16 mm	4.5 EP-016	MO68
20 mm	1.9 EP-015	MO68

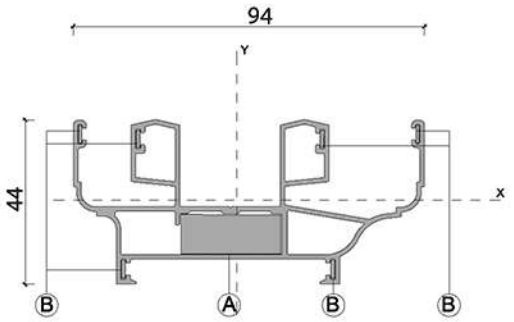


Slide System 60 Series

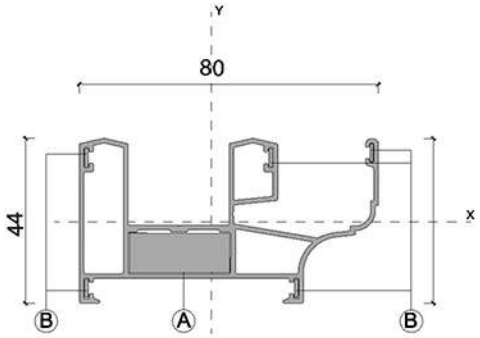
Profile & Accessories Information



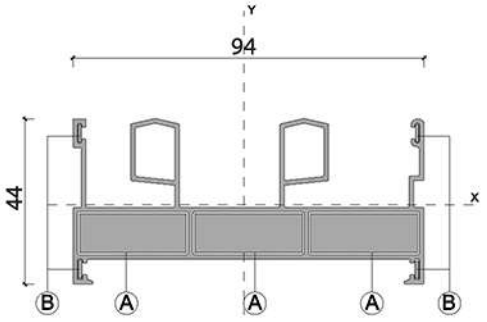
I_X: 7.45 cm^4	I_Y: 40.72 cm^4
Frame : ALN-200	A: PCP-11/27 mm
Weight: 1323 gr/m	B: MO19



I_X: 7.45 cm^4	I_Y: 37.62 cm^4
Frame : ALN-237	A: PCP-10 / 26 mm
Weight: 1350 gr/m	B: MO19



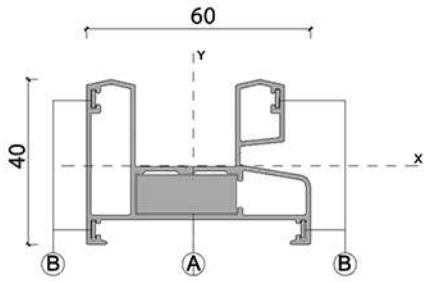
I_X: 6.85 cm^4	I_Y: 26.36 cm^4
Frame : ALN-201	A: PCP-10 / 26 mm
Weight: 1172 gr/m	B: MO19



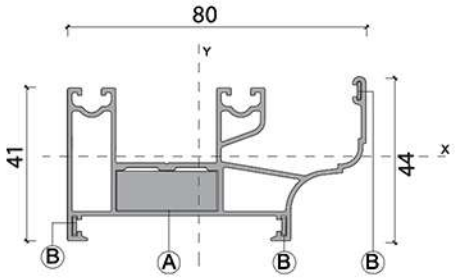
I_X: 8.19 cm^4	I_Y: 50.67 cm^4
Frame : ALN-238	A: PCP-11/29 mm
Weight: 1428 gr/m	B: MO19

Slide System 60 Series

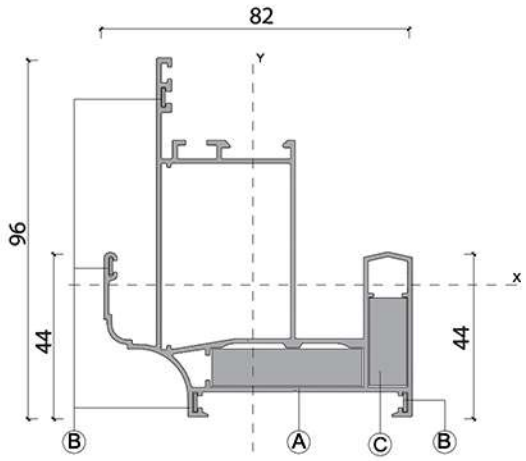
Profile & Accessories Information



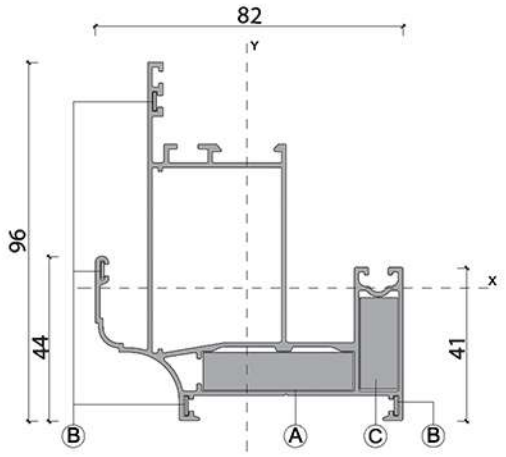
I_X: 6.05 cm^4	I_Y: 15.15 cm^4
Frame: ALN-239	A: PCP-10 / 26 mm
Weight: 983 gr/m	B: MO19



I_X: 6.07 cm^4	I_Y: 26.09 cm^4
Frame: ALN-249	A: PCP-10 / 26 mm
Weight: 1166 gr/m	B: MO19



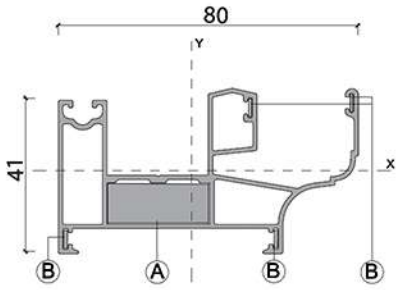
I_X: 39.18 cm^4	I_Y: 38.59 cm^4
Monorail Frame: ALN-246	A: PCP-10 /40 mm
Weight: 1620 gr/m	B: MO19
	C: PCP- 24 /10 mm



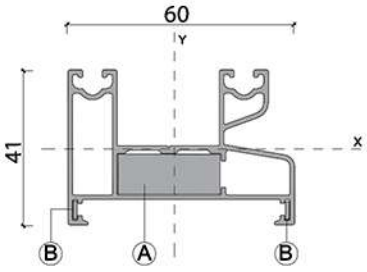
I_X: 39.11 cm^4	I_Y: 38.40 cm^4
Monorail Frame: ALN-253	A: PCP-10 / 40 mm
Weight: 1620 gr/m	B: MO19
	C: PCP- 24 /10 mm

Slide System 60 Series

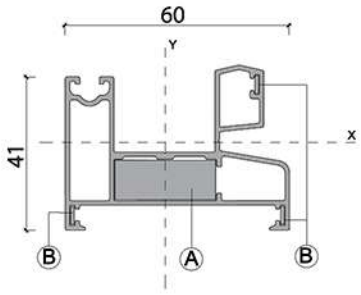
Profile & Accessories Information



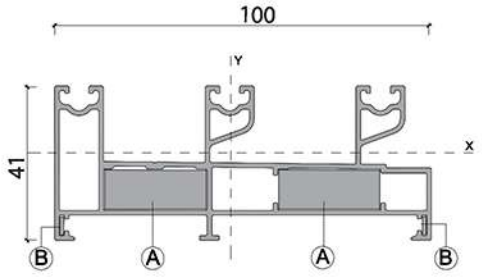
I_X: 6.19 cm^4	I_Y: 25.28 cm^4
Frame : ALN-254	A: PCP-10 / 26 mm
Weight: 1107 gr/m	B: MO19



I_X: 5.25 cm^4	I_Y: 14.82 cm^4
Frame : ALN-256	A: PCP-10 / 26 mm
Weight: 977 gr/m	B: MO19



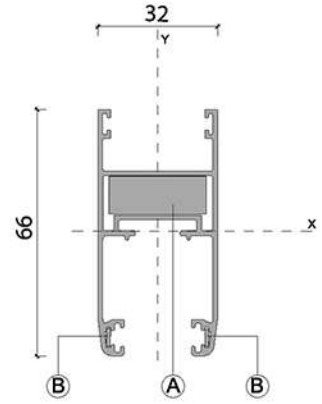
I_X: 5.66 cm^4	I_Y: 15.04 cm^4
Frame : ALN-255	A: PCP-10 / 26 mm
Weight: 983 gr/m	B: MO19



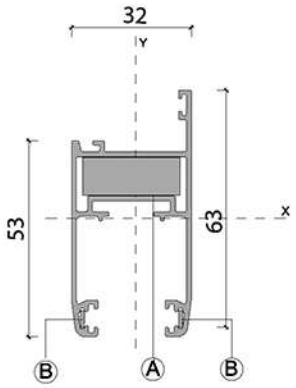
I_X: 8.03 cm^4	I_Y: 58.69 cm^4
Triplerail Frame: ALN- 258	A: PCP-10 / 26 mm
Weight: 1536 gr/m	B: MO19

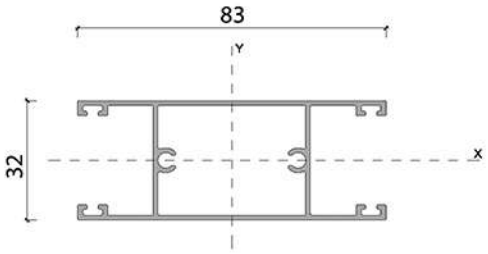
Slide System 60 Series

Profile & Accessories Information



I_X: 11.20 cm^4	I_Y: 5.52 cm^4	I_X: 11.18 cm^4	I_Y: 5.34 cm^4
Sash : ALN-203	A: PCP-10 / 26 mm	Sash : ALN-236	A: PCP-10 / 26 mm
Weight: 872 gr/m	B: MO19	Weight: 867 gr/m	B: MO19

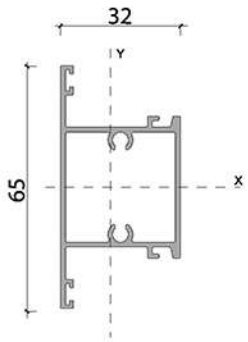




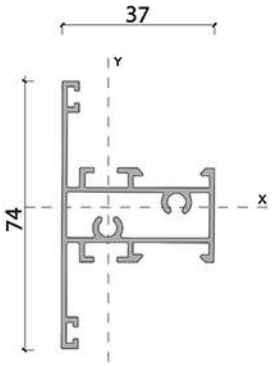
I_X: 9.64 cm^4	I_Y: 5.01 cm^4	I_X: 6.03 cm^4	I_Y: 21.30 cm^4
Sash : ALN-231	A: PCP-10 / 26 mm	Transom : ALN-202	–
Weight: 832 gr/m	B: MO19	Weight: 918 gr/m	–

Slide System 60 Series

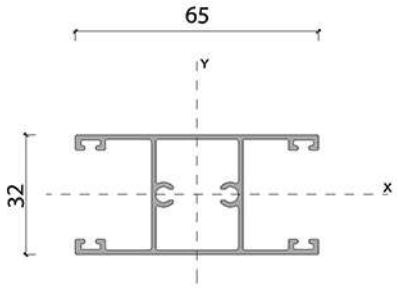
Profile & Accessories Information



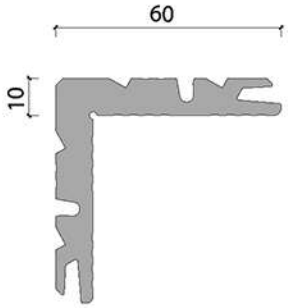
I_X: 7.46 cm^4	I_Y: 3.94 cm^4
Transom: ALN-232	–
Weight: 721 gr/m	–



I_X: 4.96 cm^4	I_Y: 6.14 cm^4
Transom: ALN-218	–
Weight: 813 gr/m	–



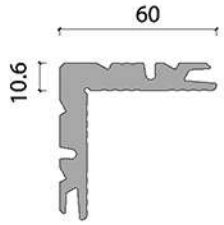
I_X: 5.03 cm^4	I_Y: 10.37 cm^4
Transom: ALN-240	–
Weight: 805 gr/m	–



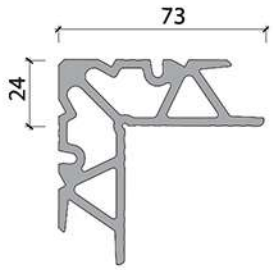
Corner: PCP10	Weight: 2454 gr/m

Slide System 60 Series

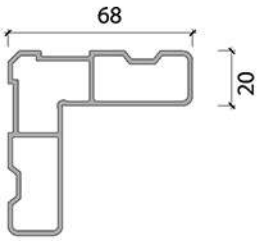
Profile & Accessories Information



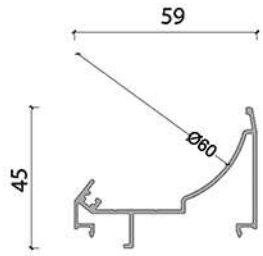
Corner: PCP11	Weight: 2549 gr/m



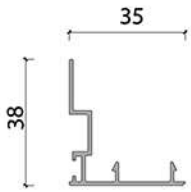
Corner Joint: PCP-24	Weight : 3918 gr/m



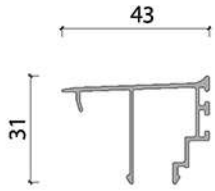
Corner Joint: PCP 20	Weight: 1375 gr/m



Profile: ALN-225	Weight : 548 gr/m



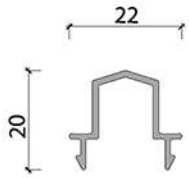
Cap: ALN-204	Weight : 313 gr/m



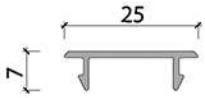
Cap : ALN-247	Weight: 386 gr/m

Slide System 60 Series

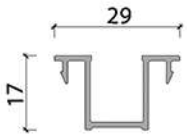
Profile & Accessories Information



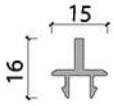
Profile : ALN-205	Weight: 176 gr/m



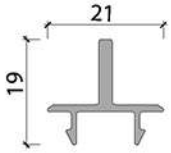
Profile: ALN-242	Weight: 116 gr/m



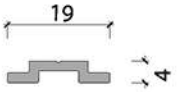
Profile : ALN-206	Weight: 232 gr/m



Profile : ALN-257	Weight: 149 gr/m



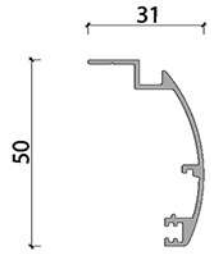
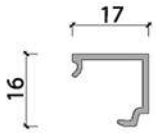
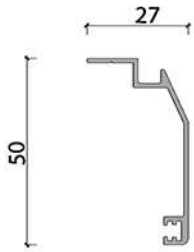
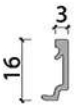
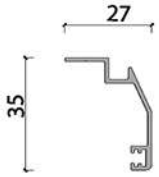
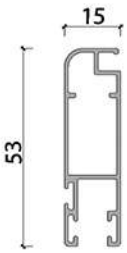
Profile: ALN-241	Weight: 194 gr/m



Profile : ALN-224	Weight: 113 gr/m

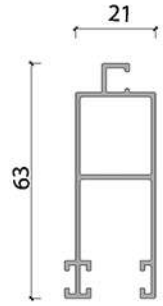
Slide System 60 Series

Profile & Accessories Information

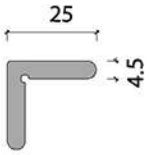
			
Flange profile: ALN-219	Weight : 362 gr/m	Glazing bead : ALN-234	Weight: 143 gr/m
			
Flange profile: ALN-221	Weight : 302 gr/m	Glazing bead : ALN-233	Weight: 95 gr/m
			
Flange profile: ALN-222	Weight : 254 gr/m	Fly screen : ALN-207	Weight: 443 gr/m

Slide System 60 Series

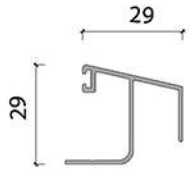
Profile & Accessories Information



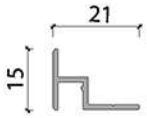
Fly screen : ALN-220	Weight : 626 gr/m



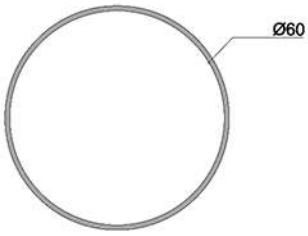
Corner : MO 19 399012	Weight: 533 gr/m



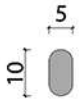
Cap : ALN-244	Weight: 319 gr/m



Profile : ALN-228	Weight: 135 gr/m



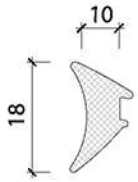
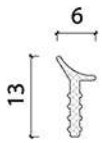
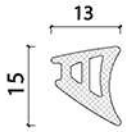
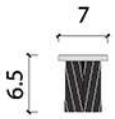
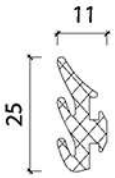
Profile: ALN-215	Weight : 648 gr/m



Rail : ALN-462	Weight: 119 gr/m

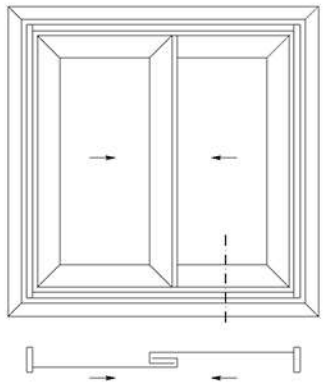
Slide System 60 Series

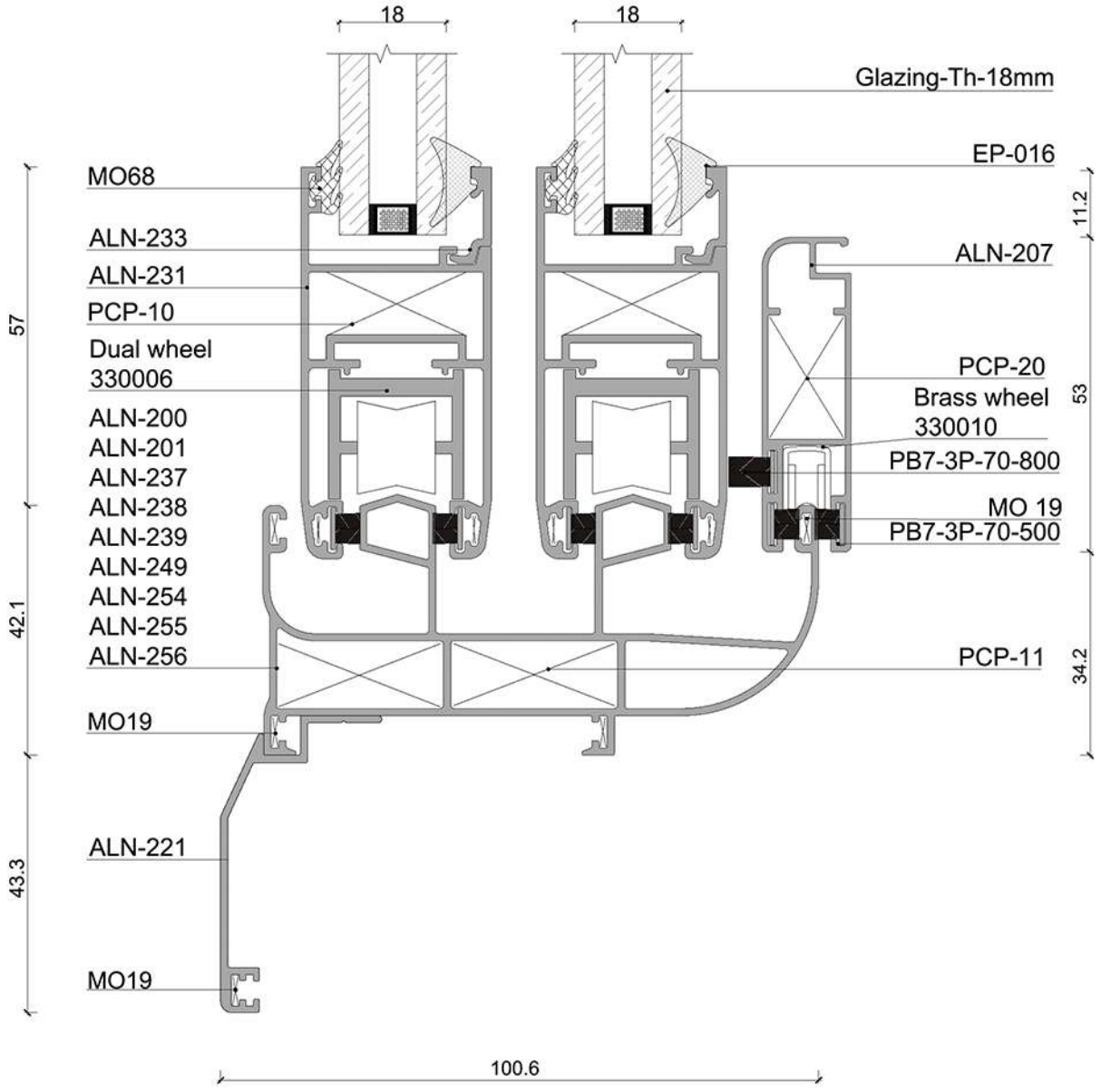
Profile & Accessories Information

			
Gasket: EP-016	Weight : 77 gr/m	Gasket: EP-015	Weight : 21 gr/m
			
Gasket: EP-021	Weight : 80 gr/m	Gasket: PB7-3P-70-650	Weight : –
			
Gasket: MO68	Weight : 46 gr/m	Gasket: PB7-3P-70-500	Weight : –
			
	Gasket : MO 60-1		Weight: –

Slide System 60 Series

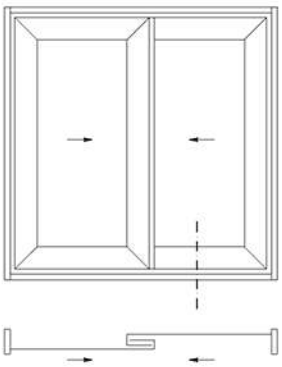
Fabrication Detailes

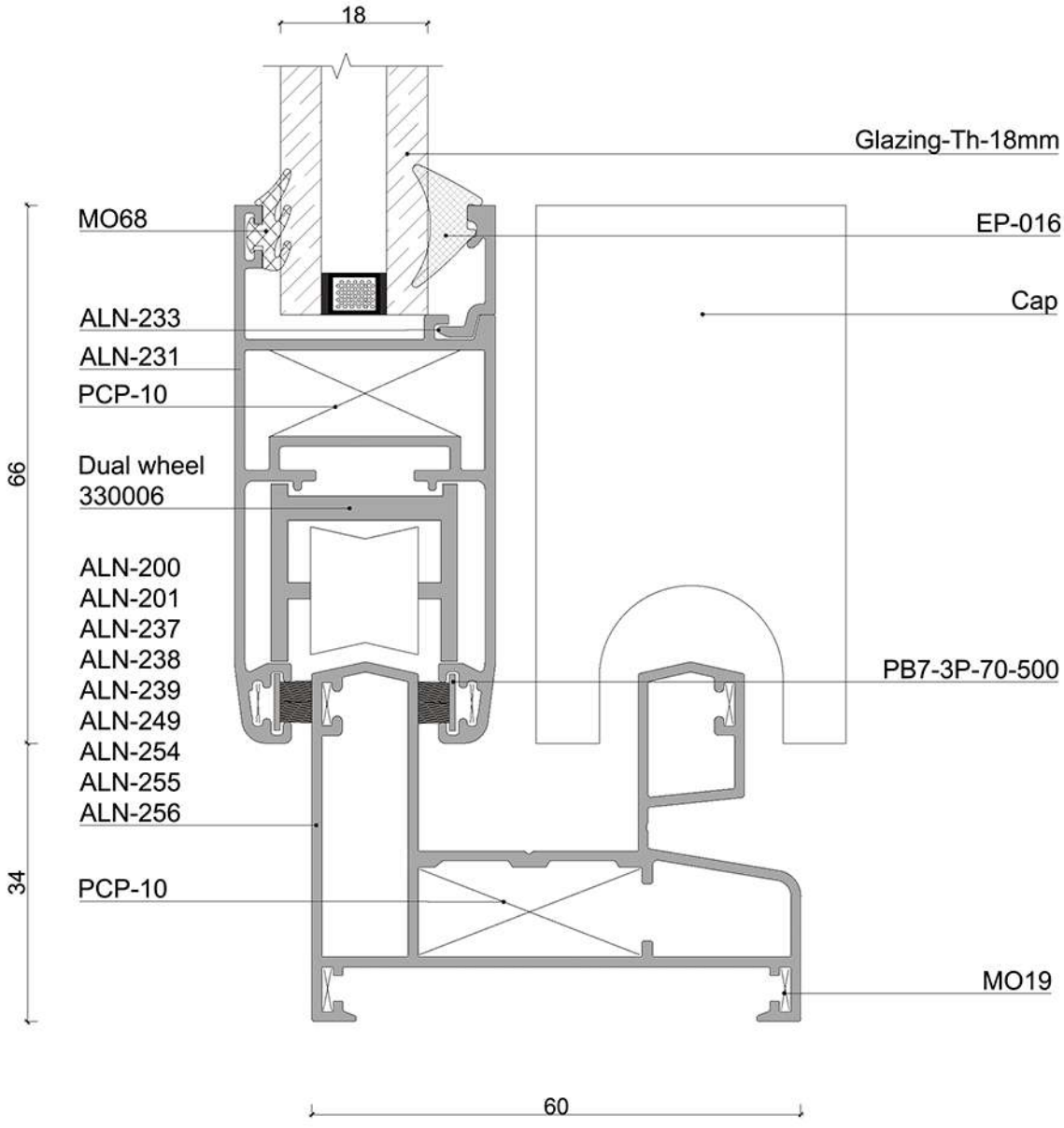




Slide System 60 Series

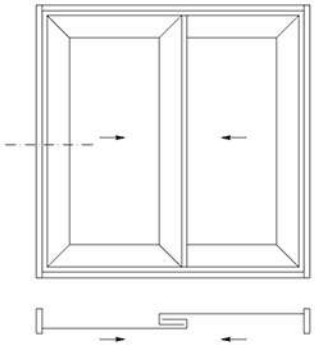
Fabrication Detailes

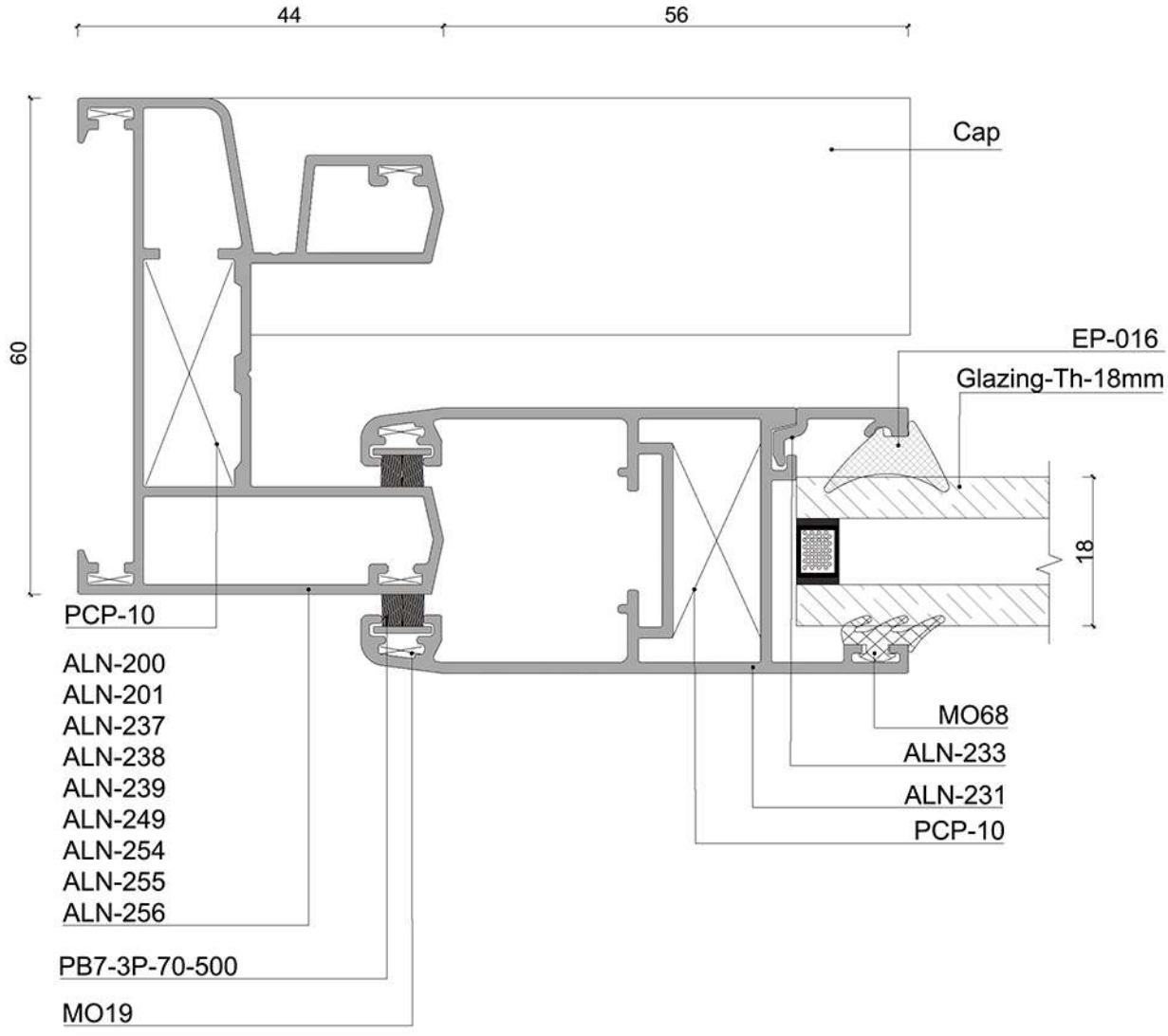




Slide System 60 Series

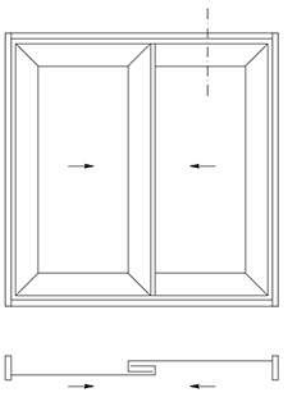
Fabrication Detailes

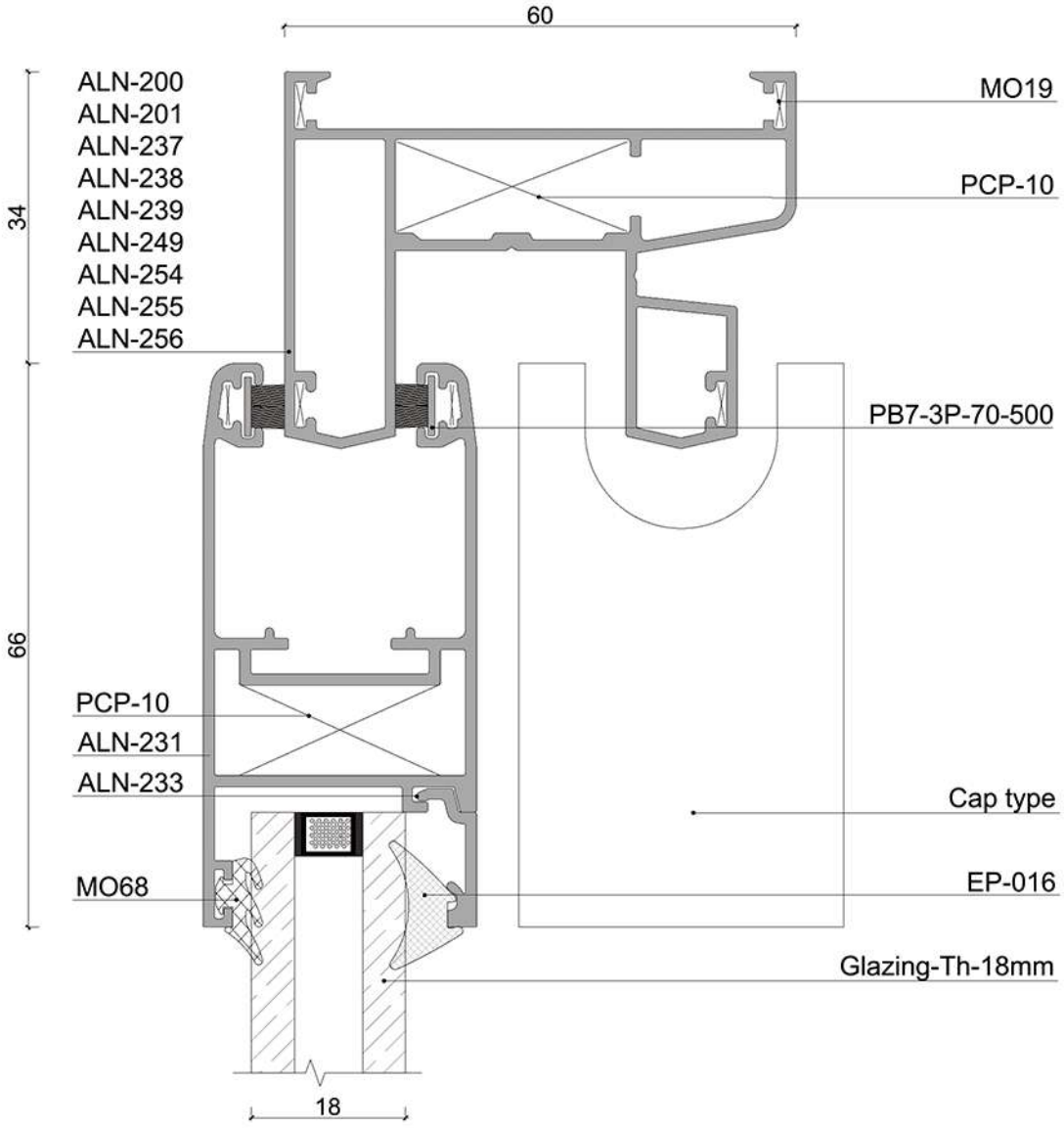




Slide System 60 Series

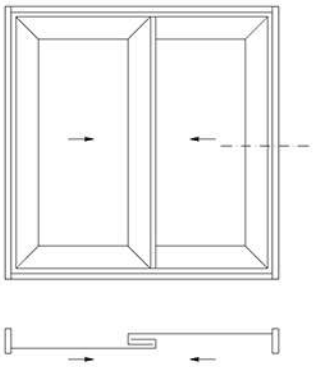
Fabrication Detailes

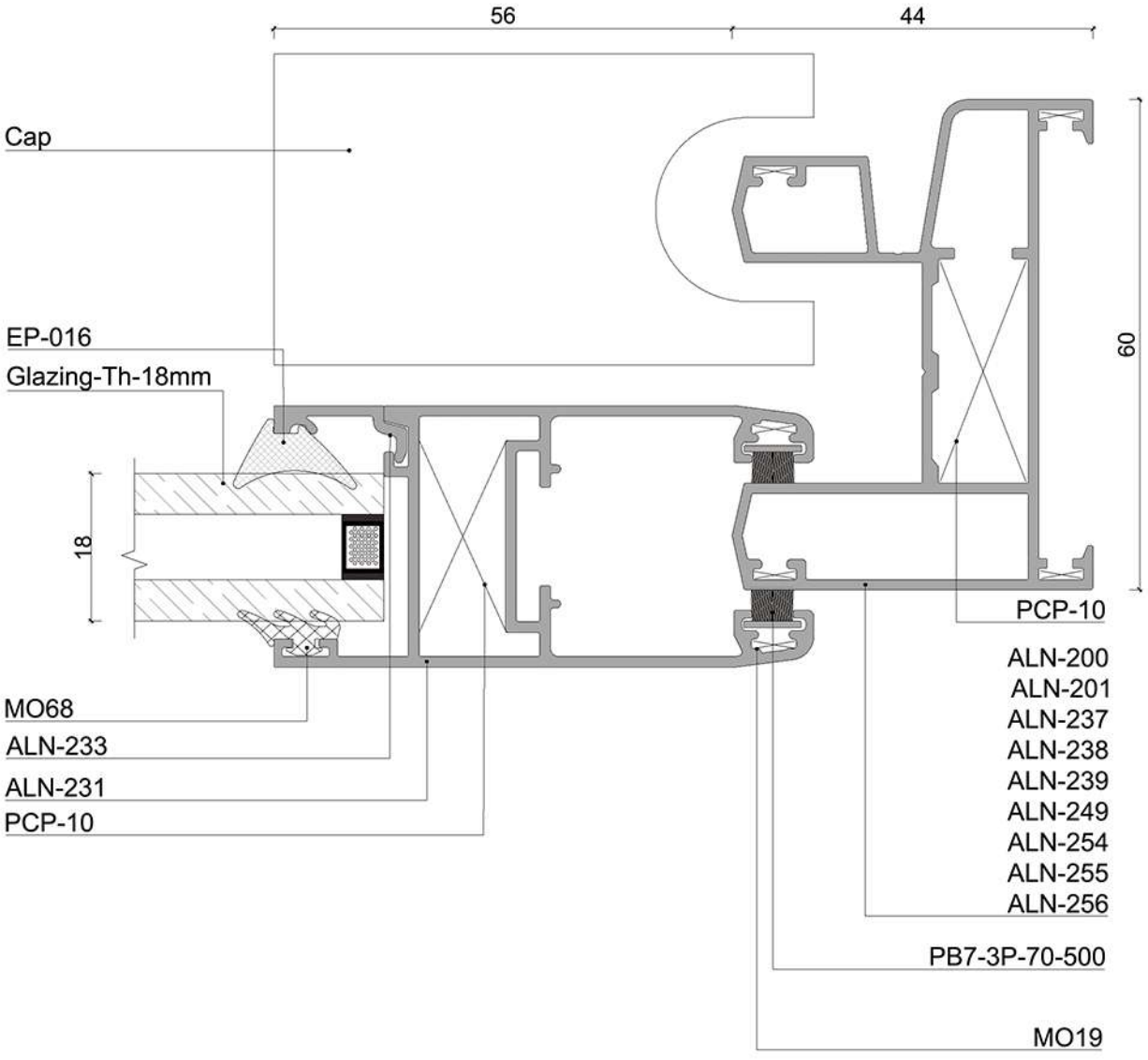




Slide System 60 Series

Fabrication Detailes

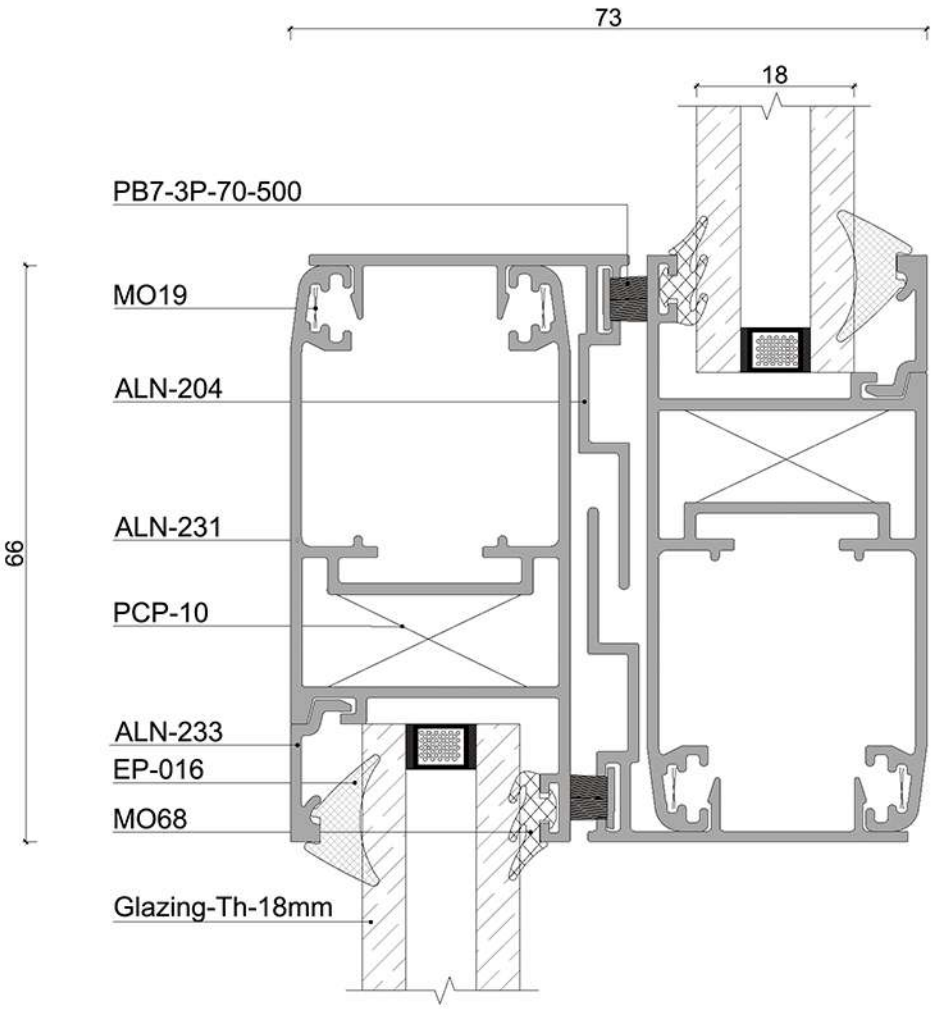




Slide System 60 Series

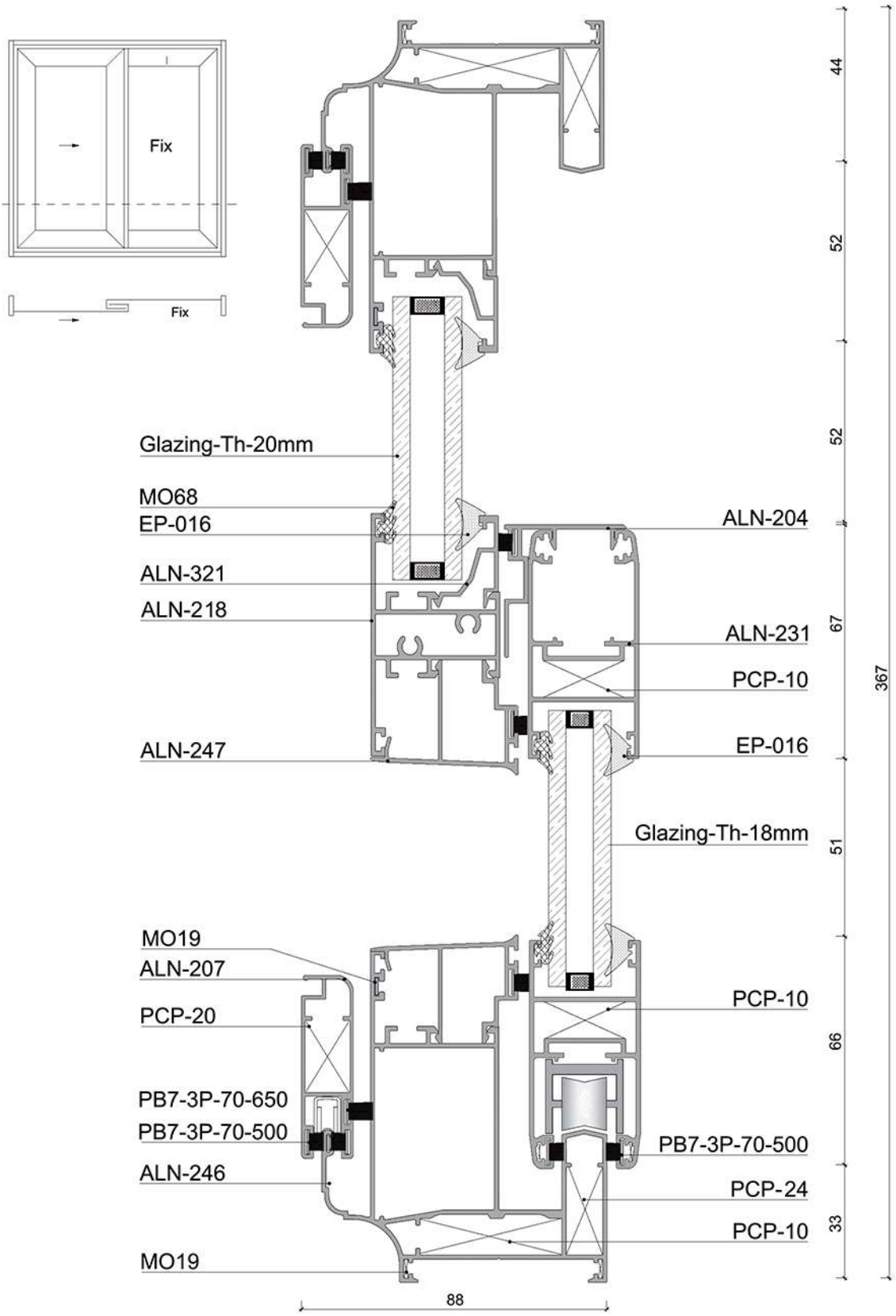
Fabrication Detailes





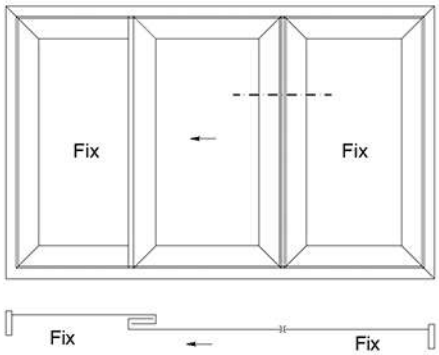
Slide System 60 Series

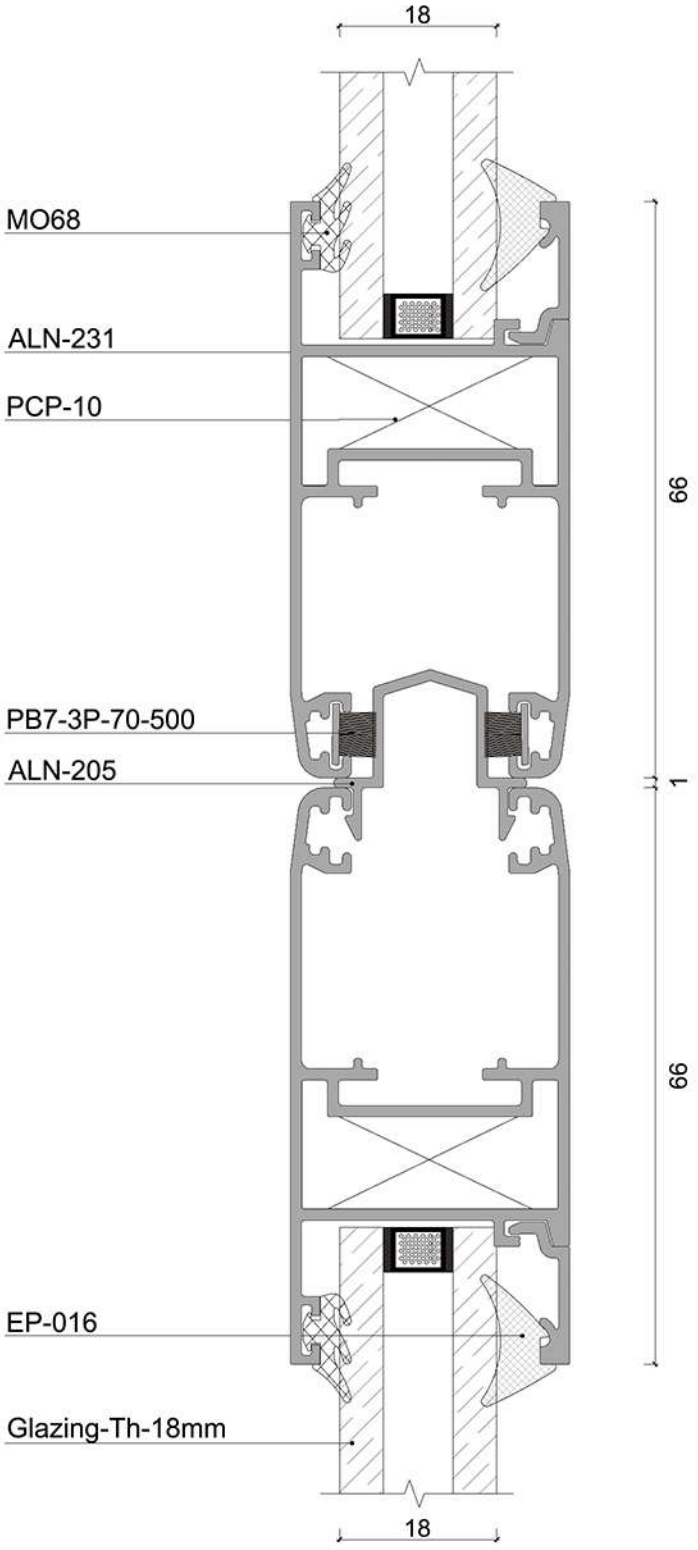
Fabrication Detailes



Slide System 60 Series

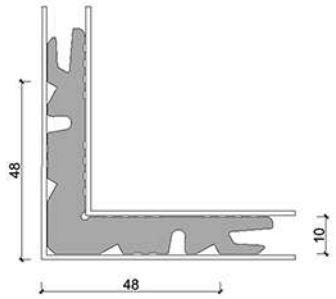
Fabrication Detailes



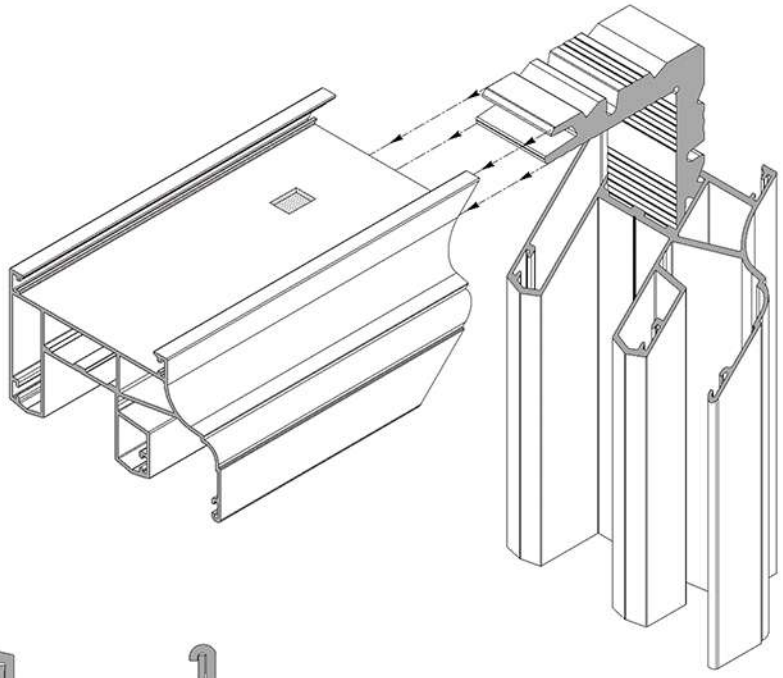


Slide System 60 Series

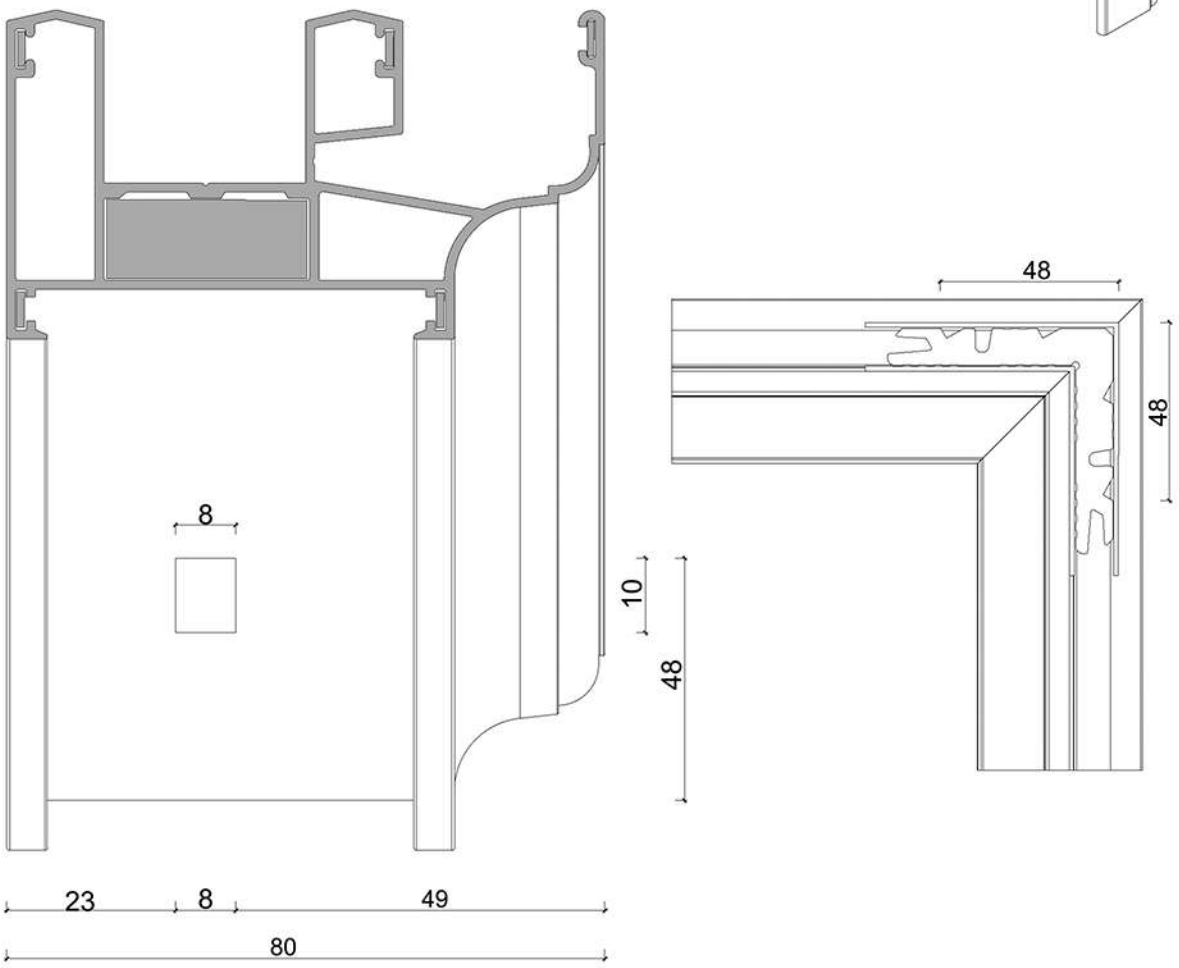
Assembly Drawing



A:PCP-10 / 26 mm

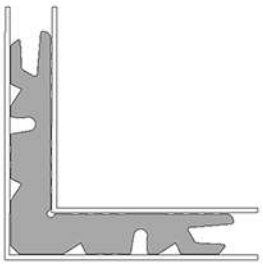


ALN-201

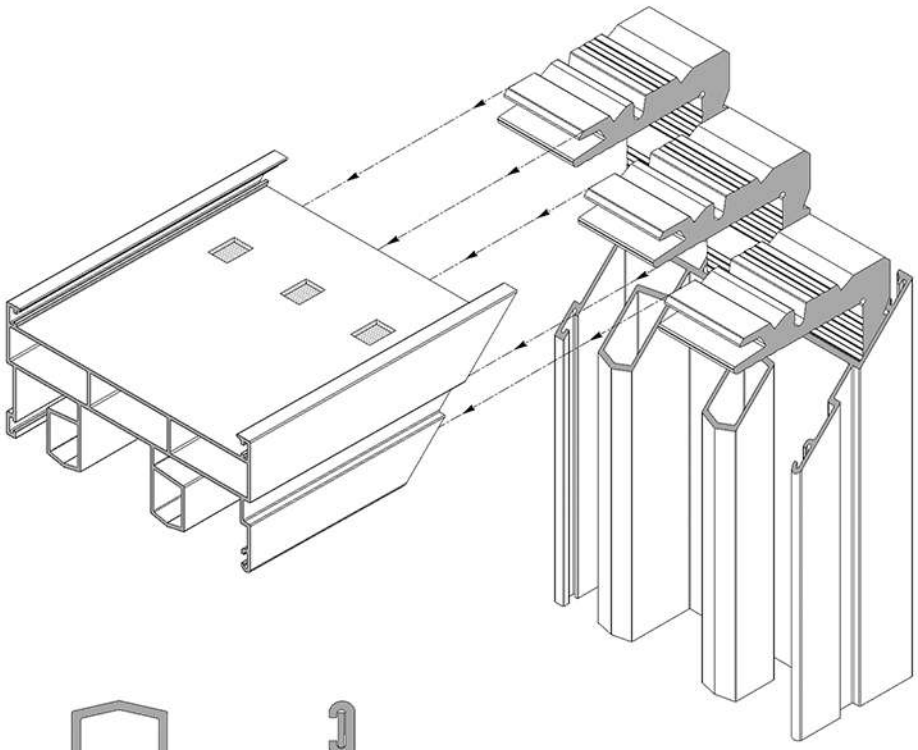


Slide System 60 Series

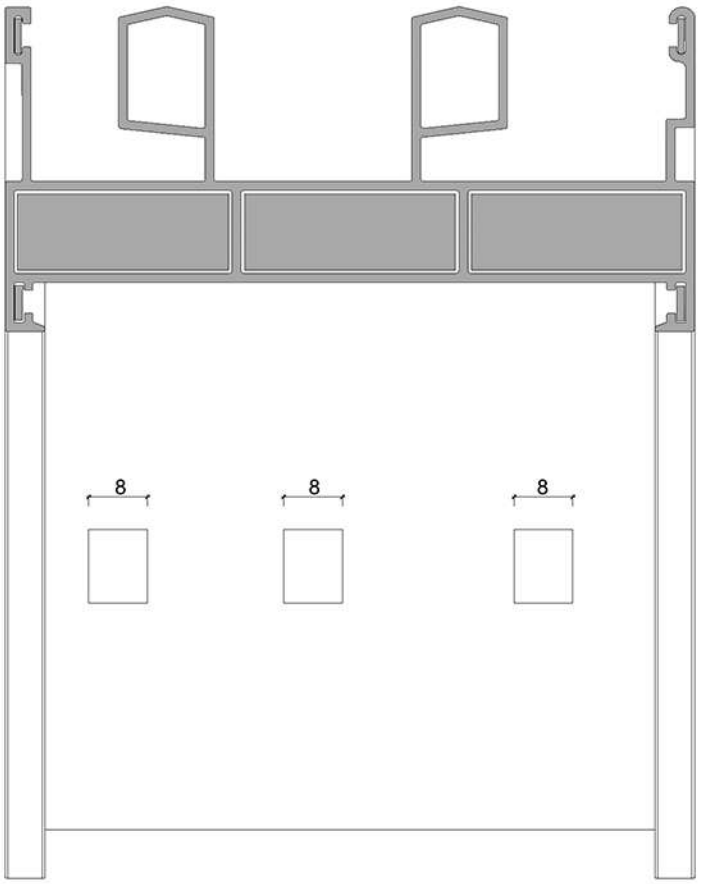
Assembly Drawing

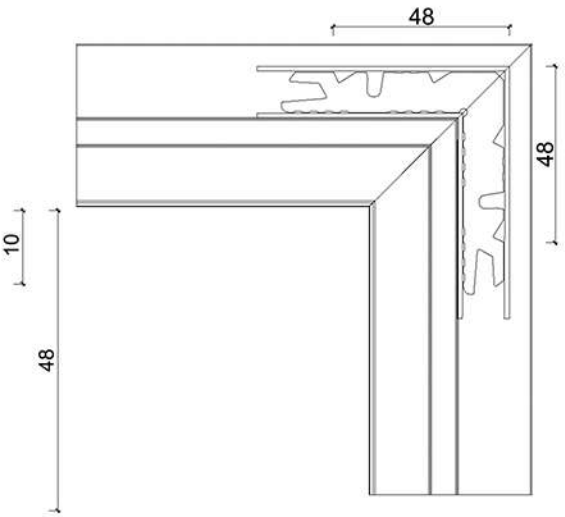


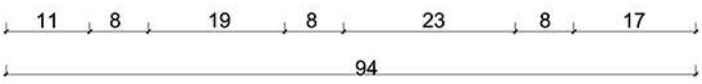
A:PCP-11 / 29 mm



ALN-238

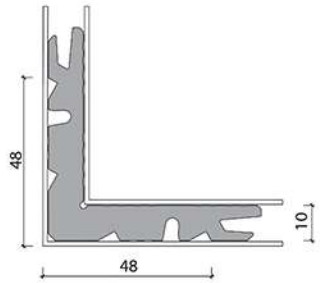




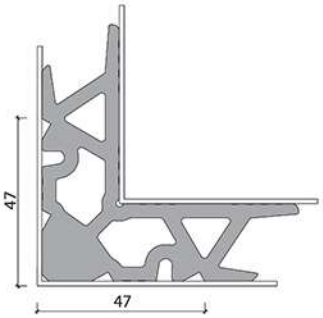


Slide System 60 Series

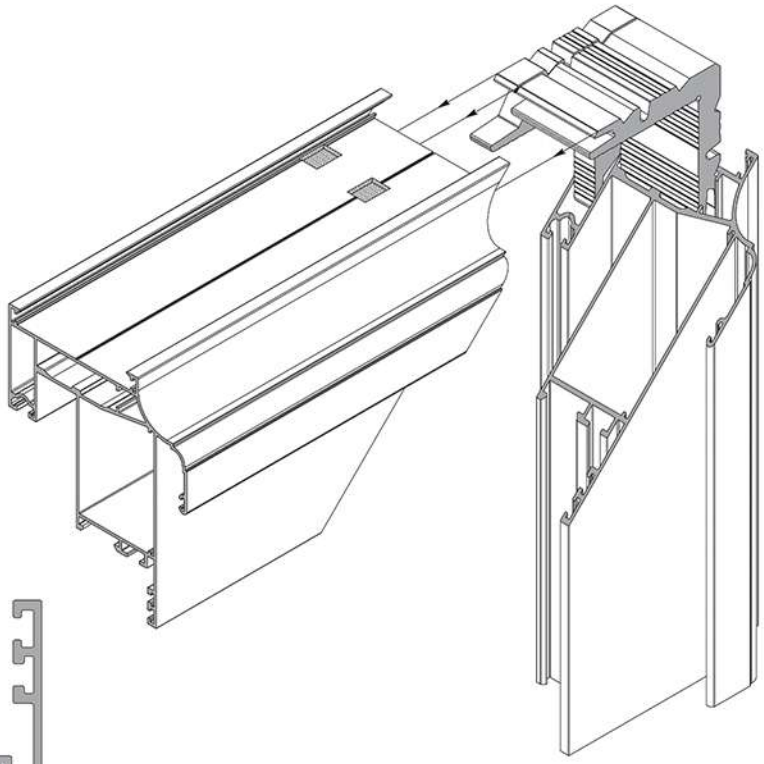
Assembly Drawing



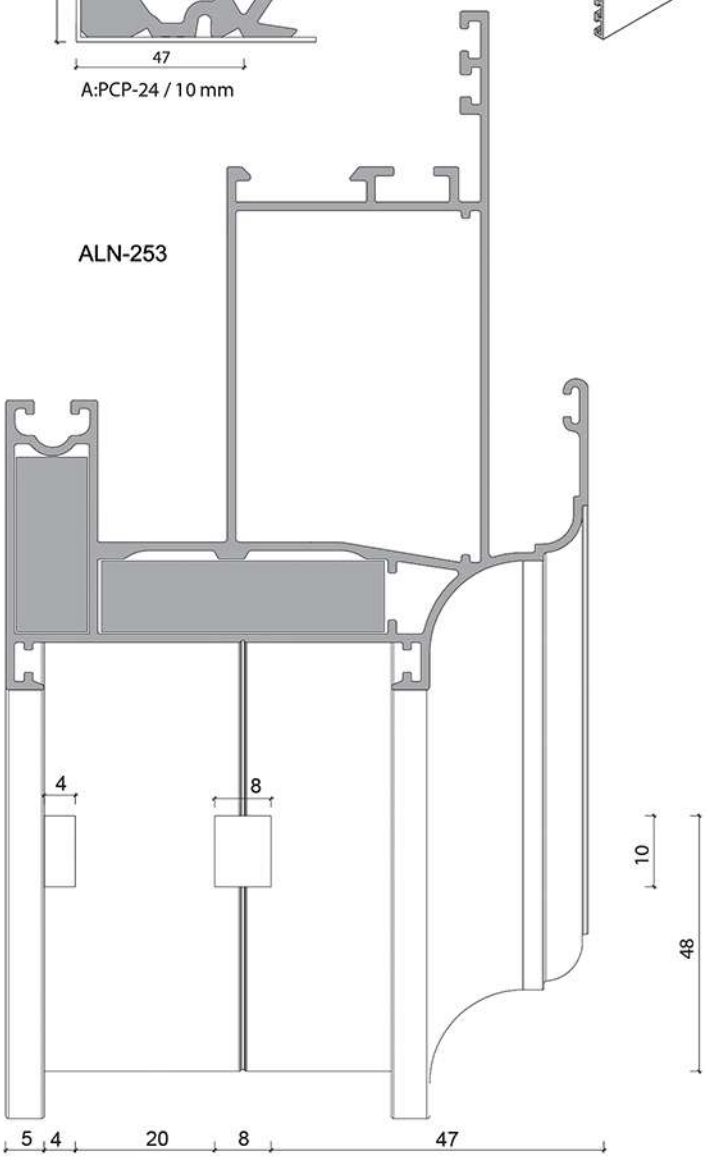
A:PCP-10 / 40 mm

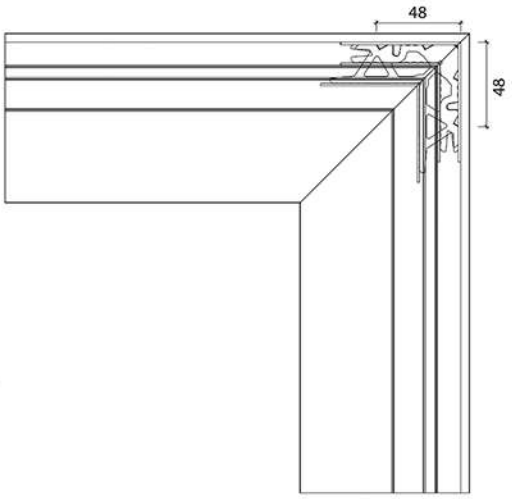


A:PCP-24 / 10 mm



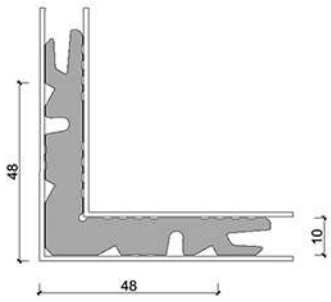
ALN-253



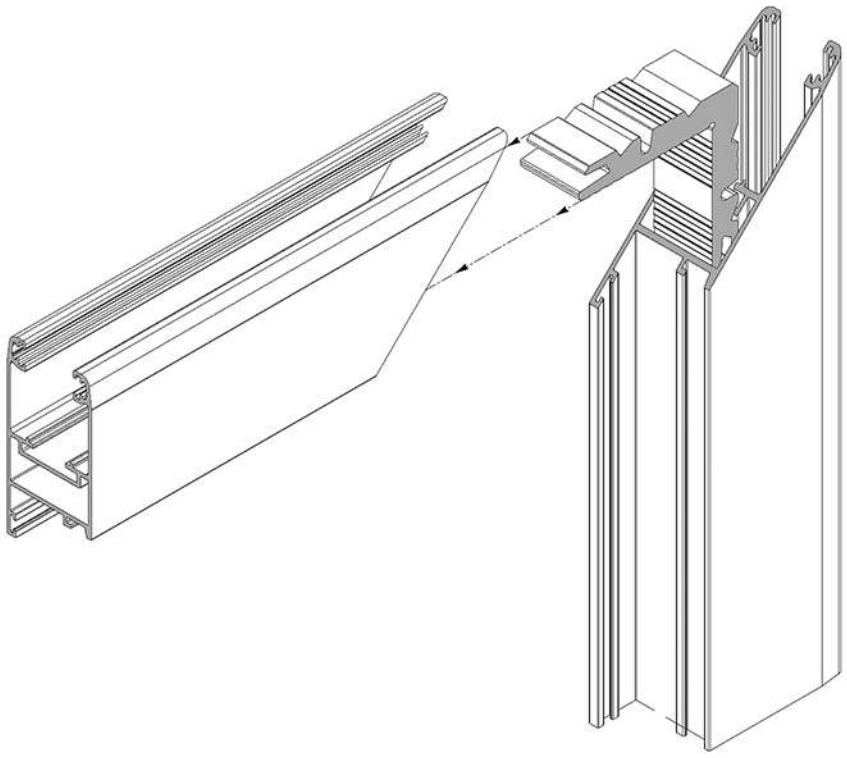


Slide System 60 Series

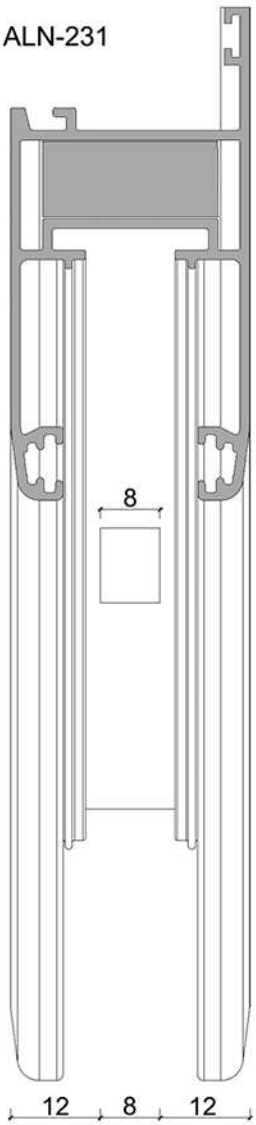
Assembly Drawing

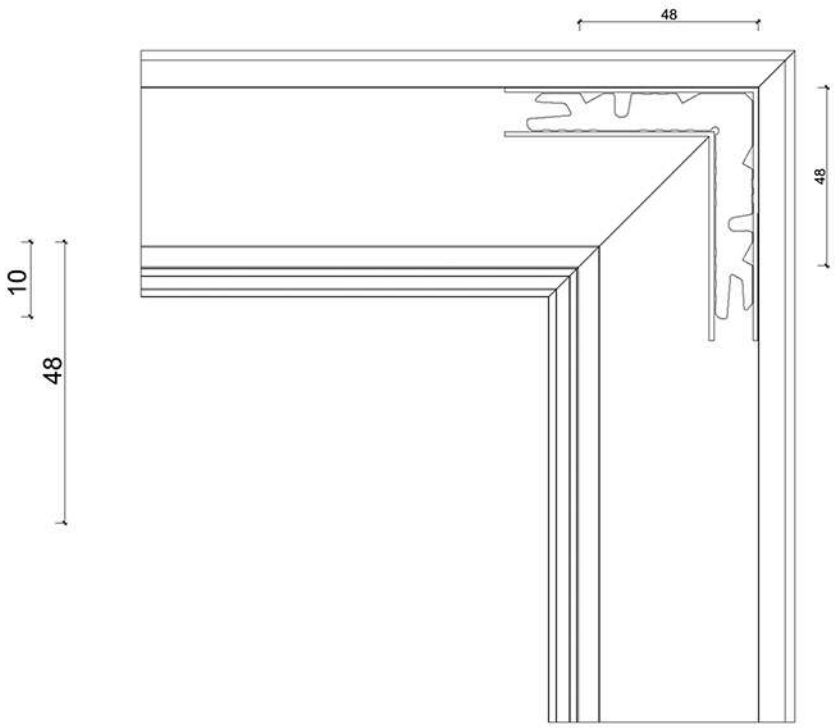


A:PCP-10 / 22 mm



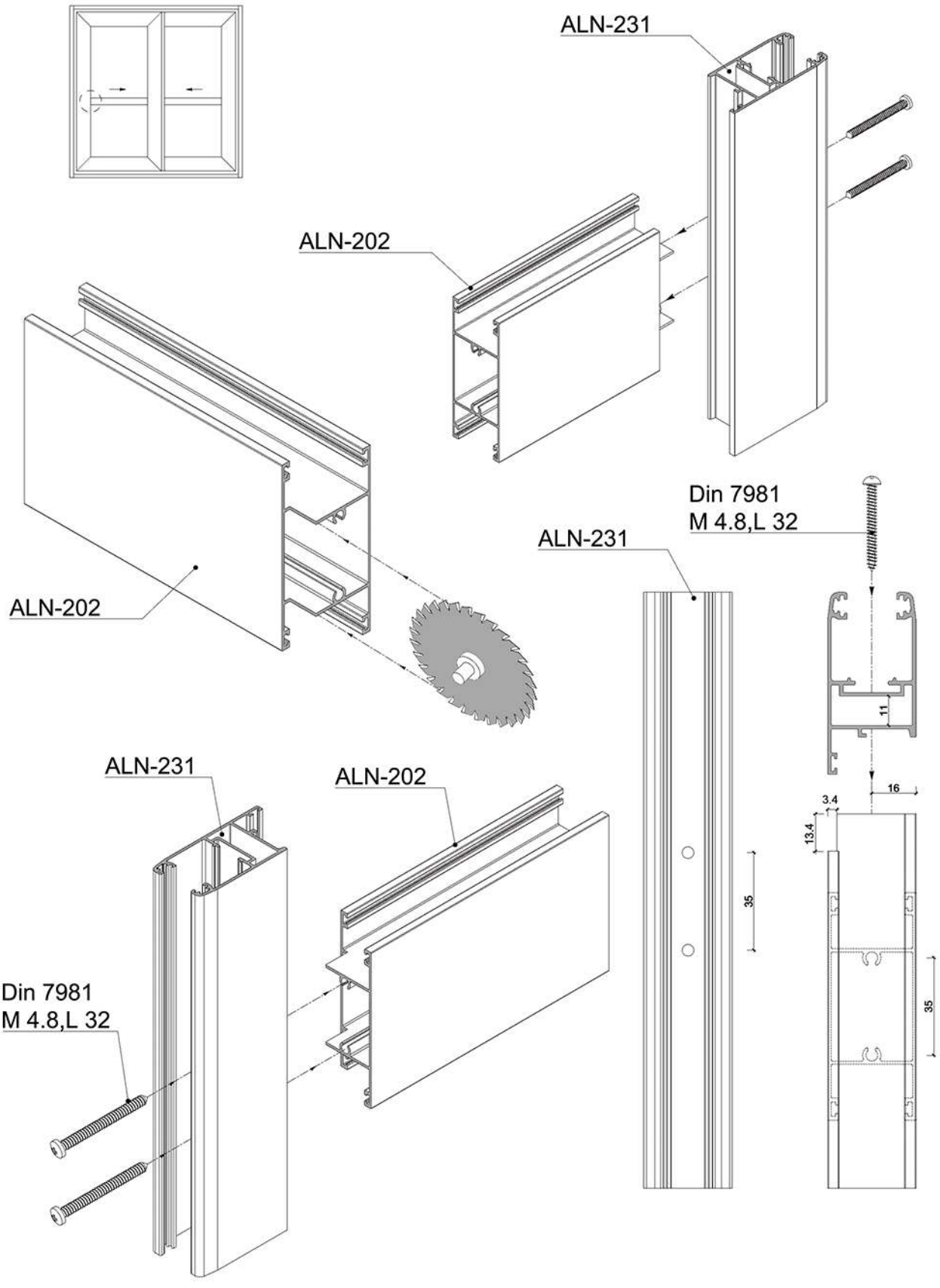
ALN-231





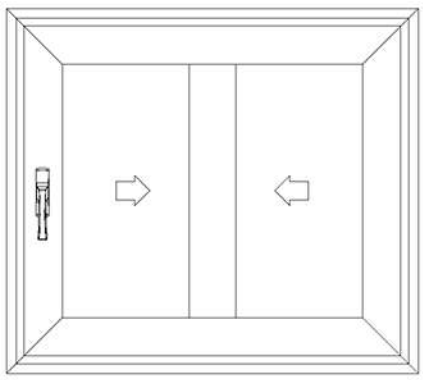
Slide System 60 Series

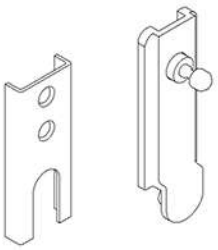
Assembly Drawing

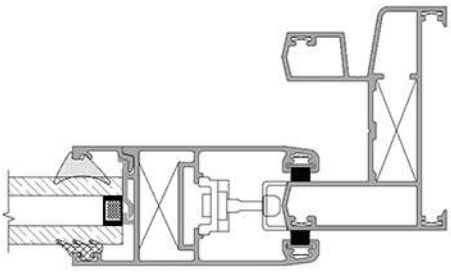


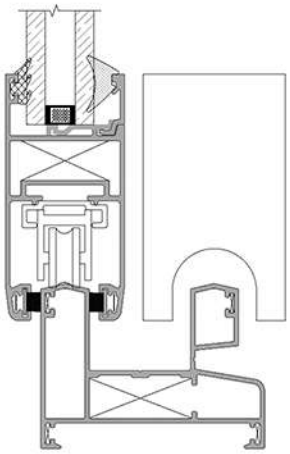
Slide System 60 Series

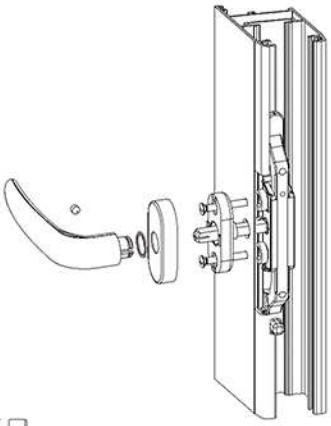
Hardware Installation

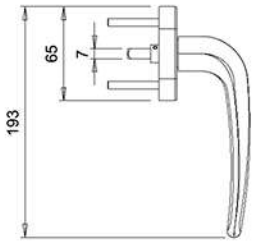


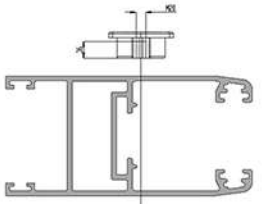


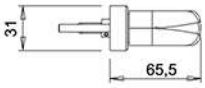


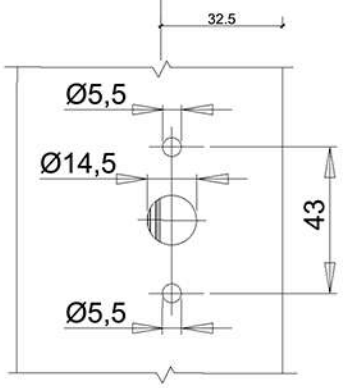


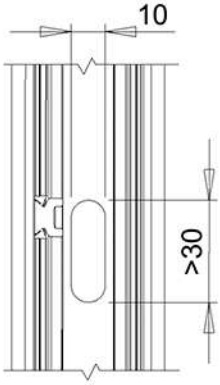


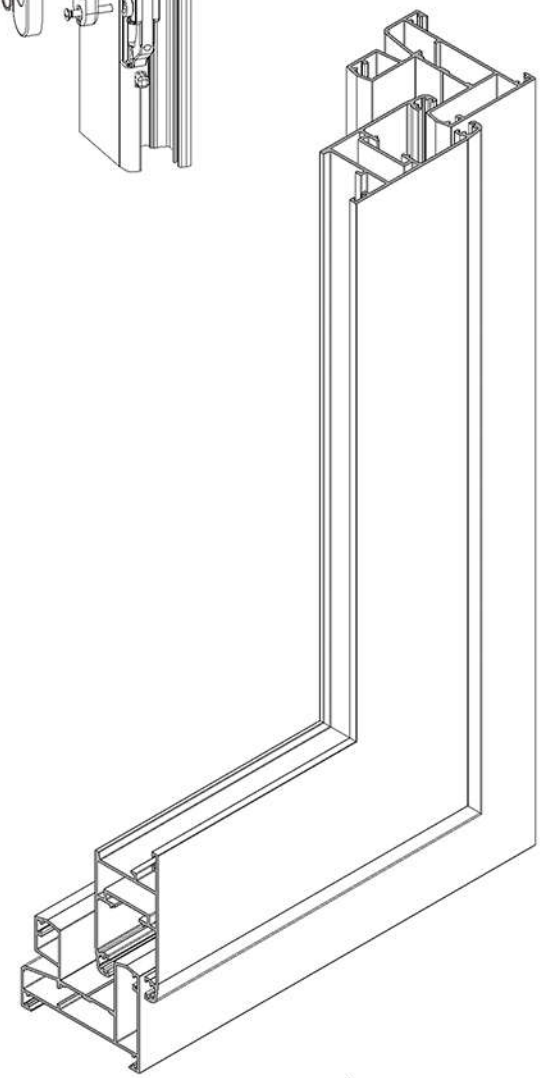








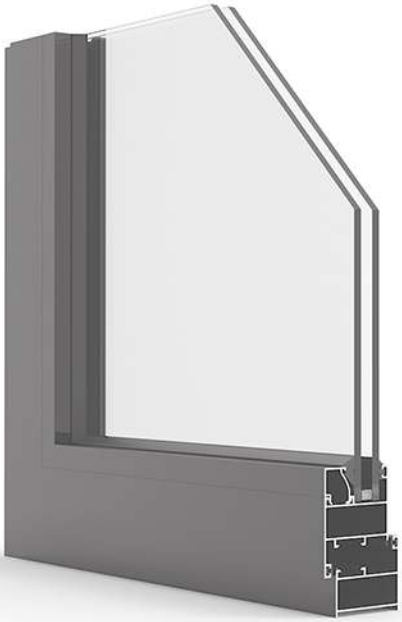




ALN 100

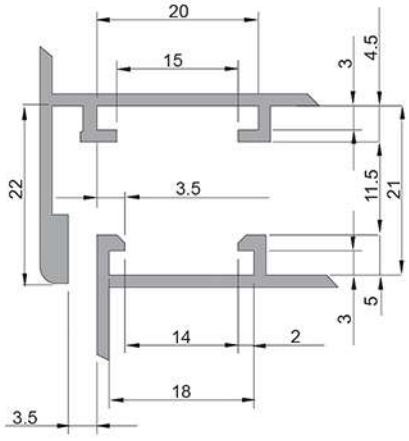
Normal Systems



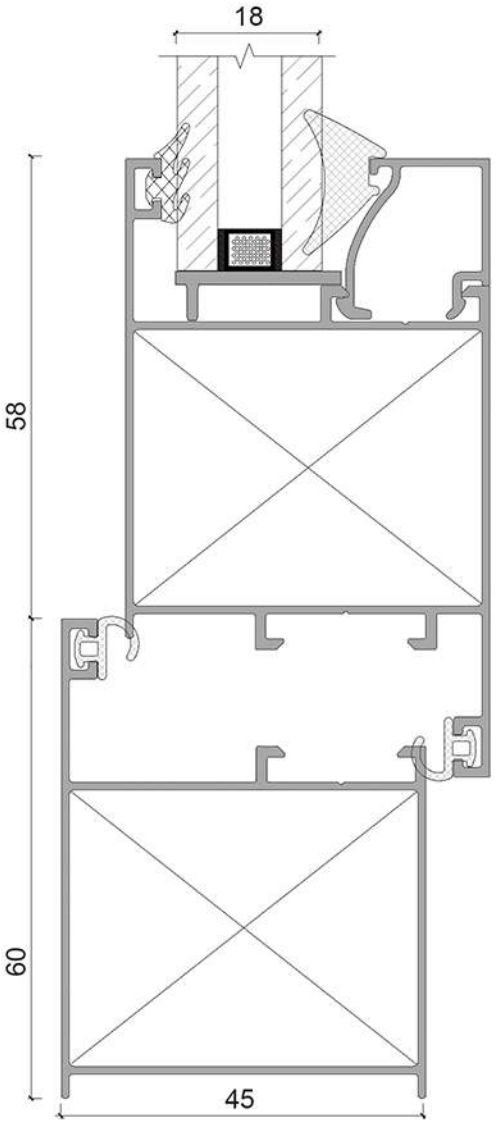


Light Hinged System 45 Series

. Profile width:	45 mm
. Vent width:	45 mm
. Wall thickness:	1 -1.1 mm
. Rubber description:	EPDM DIN 7863
. Glass thickness:	6 - 18 m
. Aluminum alloy extrusion:	EN AW 6063 T5
. Safety drainage system	
. Various typologies	

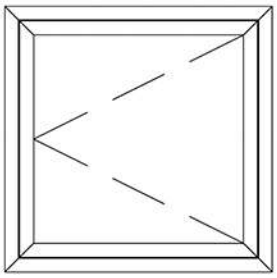


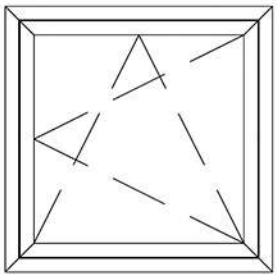
Euro Groove Section

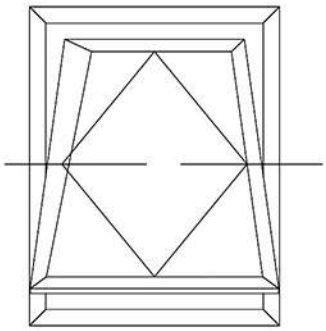


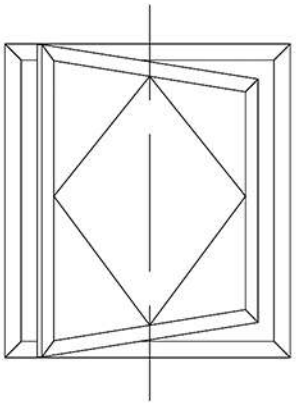
Light hinged System 45 Series

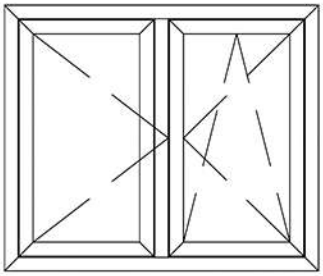
Typologies

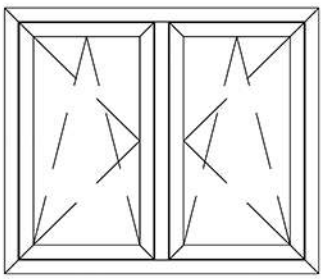








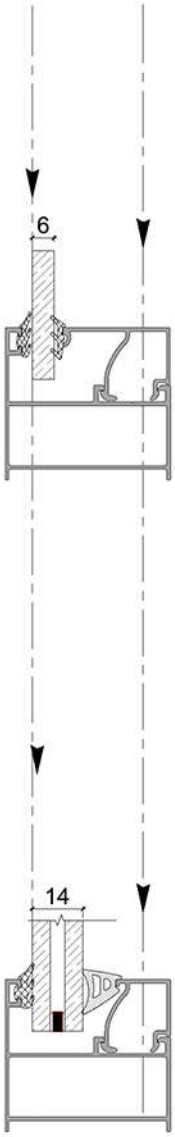


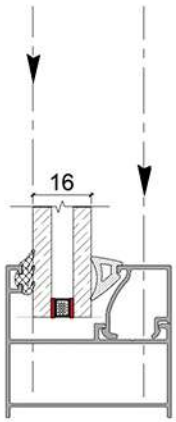


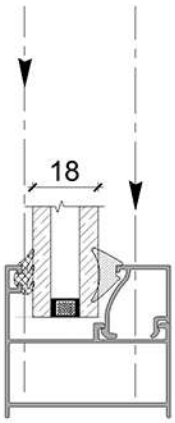
Light hinged System 45 Series

Glazing Table

Glazing Thickness	Gasket Inside	Gasket Outside	Glazing Bead
6 mm	EP-1008	MO68	ALN-112
14 mm	EP-021	MO68	ALN-113
16 mm	EP-019	MO68	ALN-113
18 mm	EP-016	MO68	ALN-113

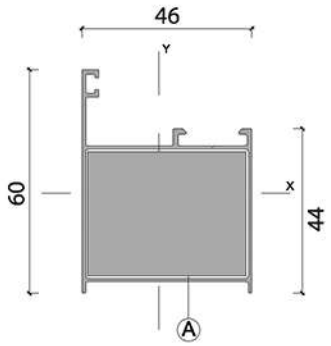




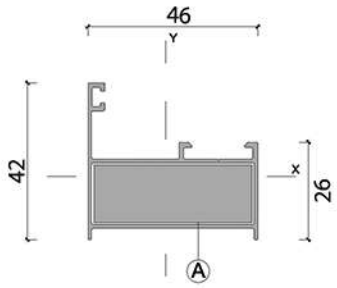


Light hinged System 45 Series

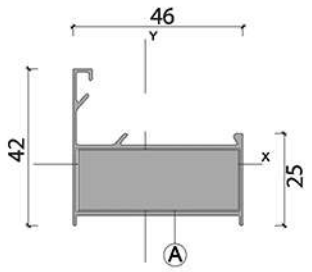
Profile & Accessories Information



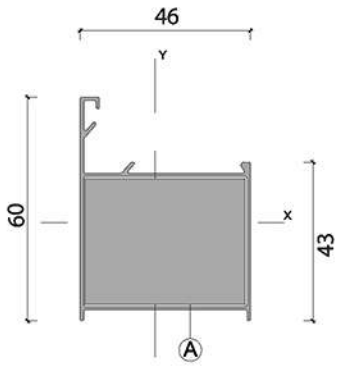
I_X: 6.94 cm^4	I_Y: 7.04 cm^4
Frame: ALN-100	A: PCP- 34 / 43 mm
Weight: 580 gr/m	—



I_X: 2.32 cm^4	I_Y: 5.25 cm^4
Frame: ALN-105	A: PCP- 16 / 43 mm
Weight: 483 gr/m	—



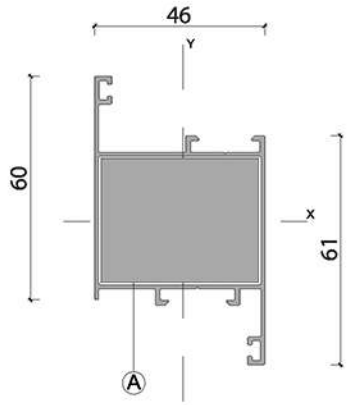
I_X: 2.06 cm^4	I_Y: 4.66 cm^4
Frame: ALN-155	A: PCP- 16 / 43 mm
Weight: 421 gr/m	—

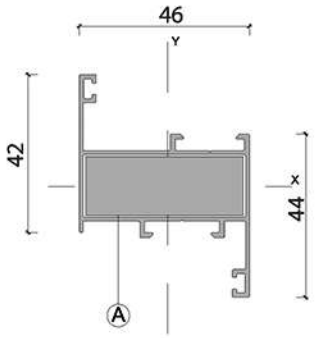


I_X: 6.10 cm^4	I_Y: 6.30 cm^4
Frame: ALN-150	A: PCP- 34 / 43 mm
Weight: 508 gr/m	—

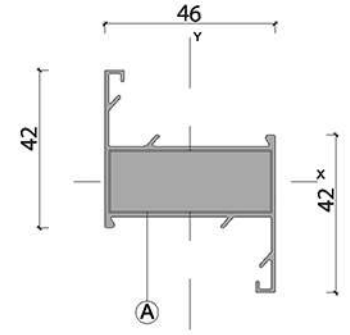
Light hinged System 45 Series

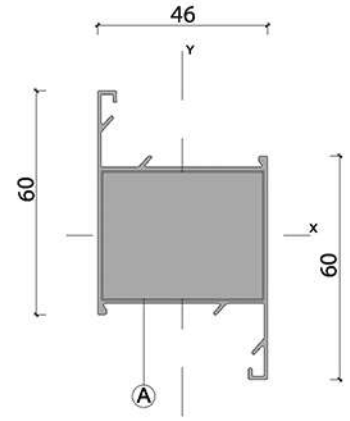
Profile & Accessories Information





I_X: 11.33 cm^4	I_Y: 8.60 cm^4	I_X: 4.58 cm^4	I_Y: 6.89 cm^4
Sash : ALN-101	A: PCP- 34 / 43 mm	Sash : ALN-106	A: PCP- 16 / 43 mm
Weight: 702 gr/m	—	Weight: 607 gr/m	—

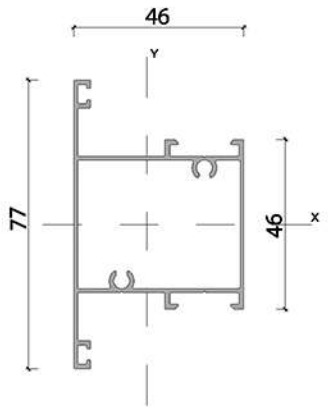
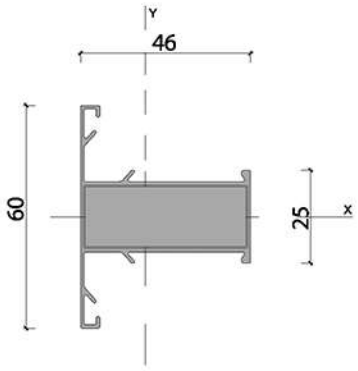
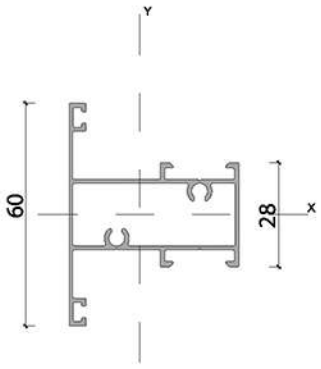
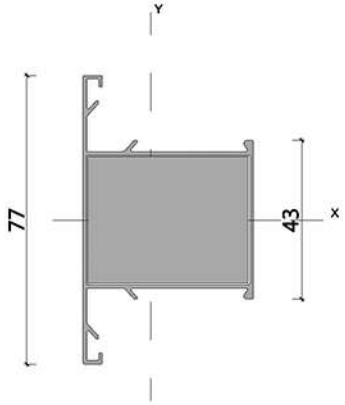




I_X: 3.87 cm^4	I_Y: 6.23 cm^4	I_X: 9.54 cm^4	I_Y: 7.81 cm^4
Sash: ALN-156	A: PCP- 16 / 43 mm	Sash: ALN-151	A: PCP- 34 / 43 mm
Weight: 513 gr/m	—	Weight: 599 gr/m	—

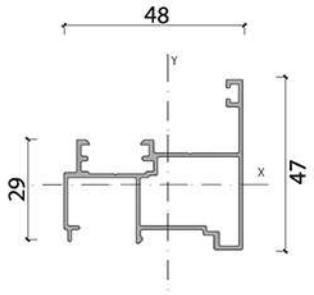
Light hinged System 45 Series

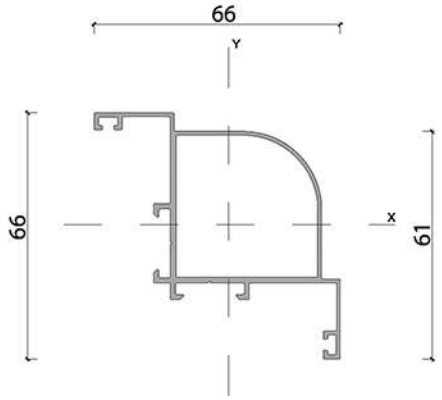
Profile & Accessories Information

<table>
<tr><td colspan="2">
</td><td colspan="2">
</td></tr>
<tr><td>I_X: 11.80 cm^4</td><td>I_Y: 8.74 cm^4</td><td>I_X: 3.87 cm^4</td><td>I_Y: 5.67 cm^4</td></tr>
<tr><td>Transom: ALN-102</td><td>—</td><td>Transom: ALN-157</td><td>A: ALN-118/43</td></tr>
<tr><td>Weight: 761 gr/m</td><td>—</td><td>Weight: 513 gr/m</td><td>—</td></tr>
<tr><td colspan="2">
</td><td colspan="2">
</td></tr>
<tr><td>I_X: 4.65 cm^4</td><td>I_Y: 6.95 cm^4</td><td>I_X: 9.54 cm^4</td><td>I_Y: 7.33 cm^4</td></tr>
<tr><td>Transom: ALN-107</td><td>—</td><td>Transom: ALN-152</td><td>A: ALN-117/43</td></tr>
<tr><td>Weight: 667 gr/m</td><td>—</td><td>Weight: 599 gr/m</td><td>—</td></tr>
</table>

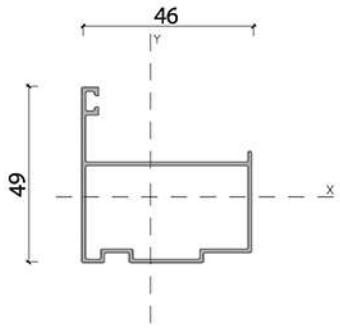
Light hinged System 45 Series

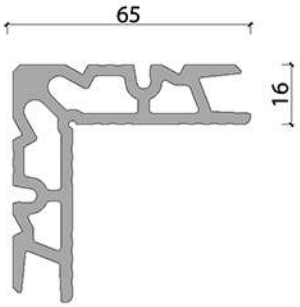
Profile & Accessories Information





I_X: 3.03 cm^4	I_Y: 6.50 cm^4	I_X: 10.90 cm^4	I_Y: 10.90 cm^4
Profile: ALN-103	–	Profile: ALN-109	–
Weight: 591 gr/m	–	Weight: 794 gr/m	–

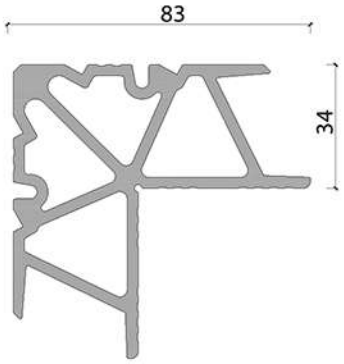




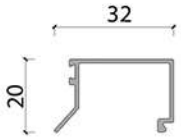
I_X: 3.72 cm^4	I_Y: 5.46 cm^4		
Profile: ALN-108	–		
Weight: 497 gr/m	–	Corner joint: PCP 16	Weight: 2387 gr/m

Light hinged System 45 Series

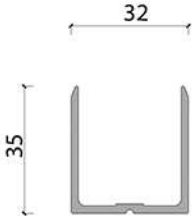
Profile & Accessories Information



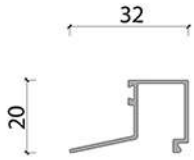
Corner joint: PCP 34	Weight: 3505 gr/m



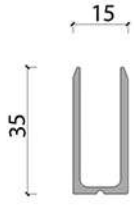
Profile: ALN-110	Weight: 211 gr/m



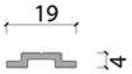
Transom bar profile: ALN-117	Weight: 532 gr/m



Profile: ALN-111	Weight: 211 gr/m



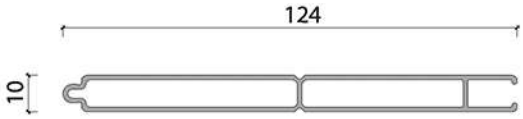
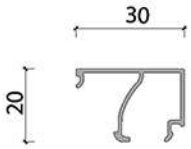
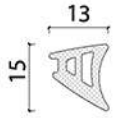
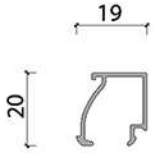
Transom bar profile: ALN-118	Weight: 429 gr/m



Profile: ALN-224	Weight: 110 gr/m

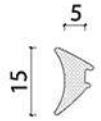
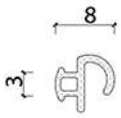
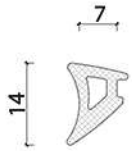
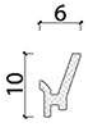
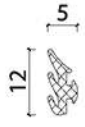
Light hinged System 45 Series

Profile & Accessories Information

			
Profile: ALN-212	Weight: 872 gr/m	Flange profile: ALN-119	Weight: 278 gr/m
			
Glazing bead: ALN-112	Weight: 229 gr/m	Gasket: EP-021	Weight: 80 gr/m
			
Glazing bead: ALN-113	Weight: 178 gr/m	Gasket: 1008	Weight: –

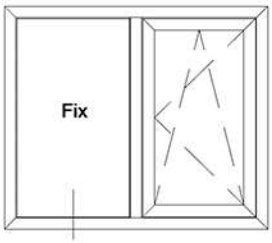
Light hinged System 45 Series

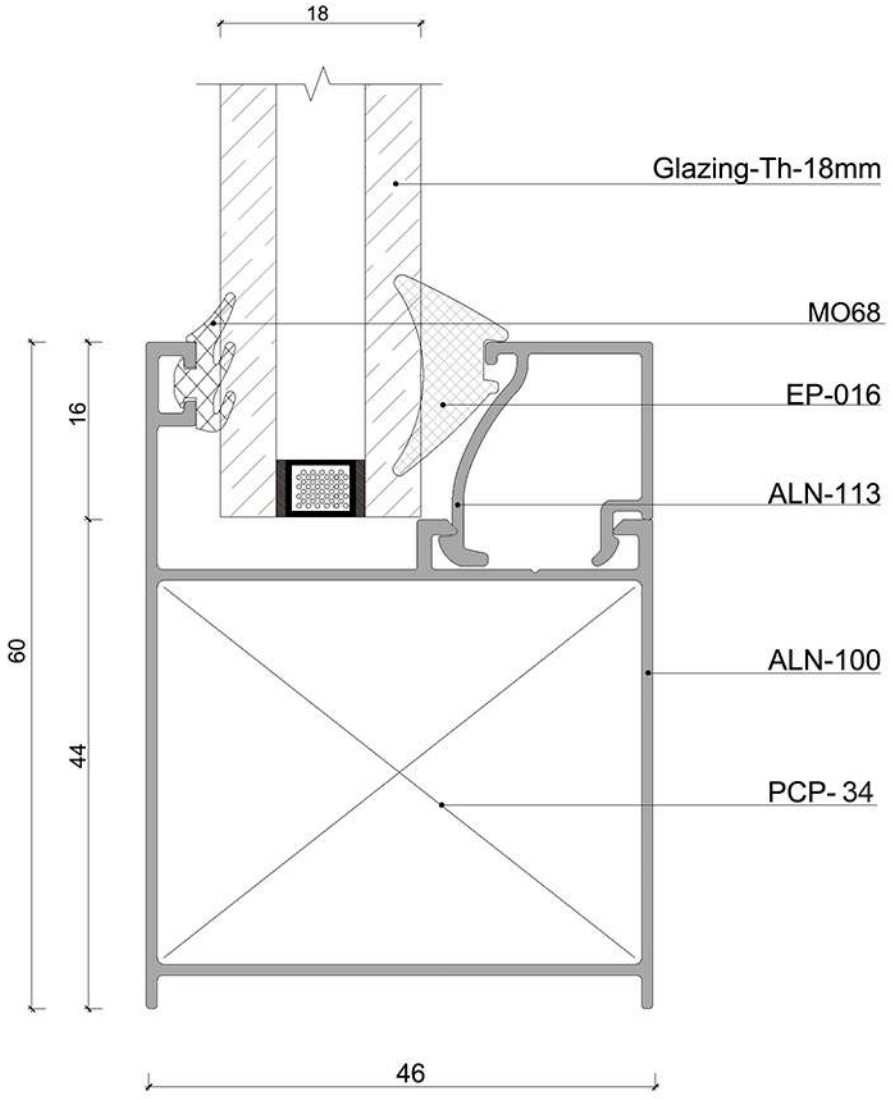
Profile & Accessories Information

			
Gasket: EP-016	Weight: 77 gr/m	Gasket: EP-018	Weight: 27 gr/m
			
Gasket: EP-019	Weight: 61 gr/m	Gasket: MOB	Weight: 21 gr/m
			
Gasket: MO68	Weight: –	Gasket: MOS	Weight: –

Light hinged System 45 Series

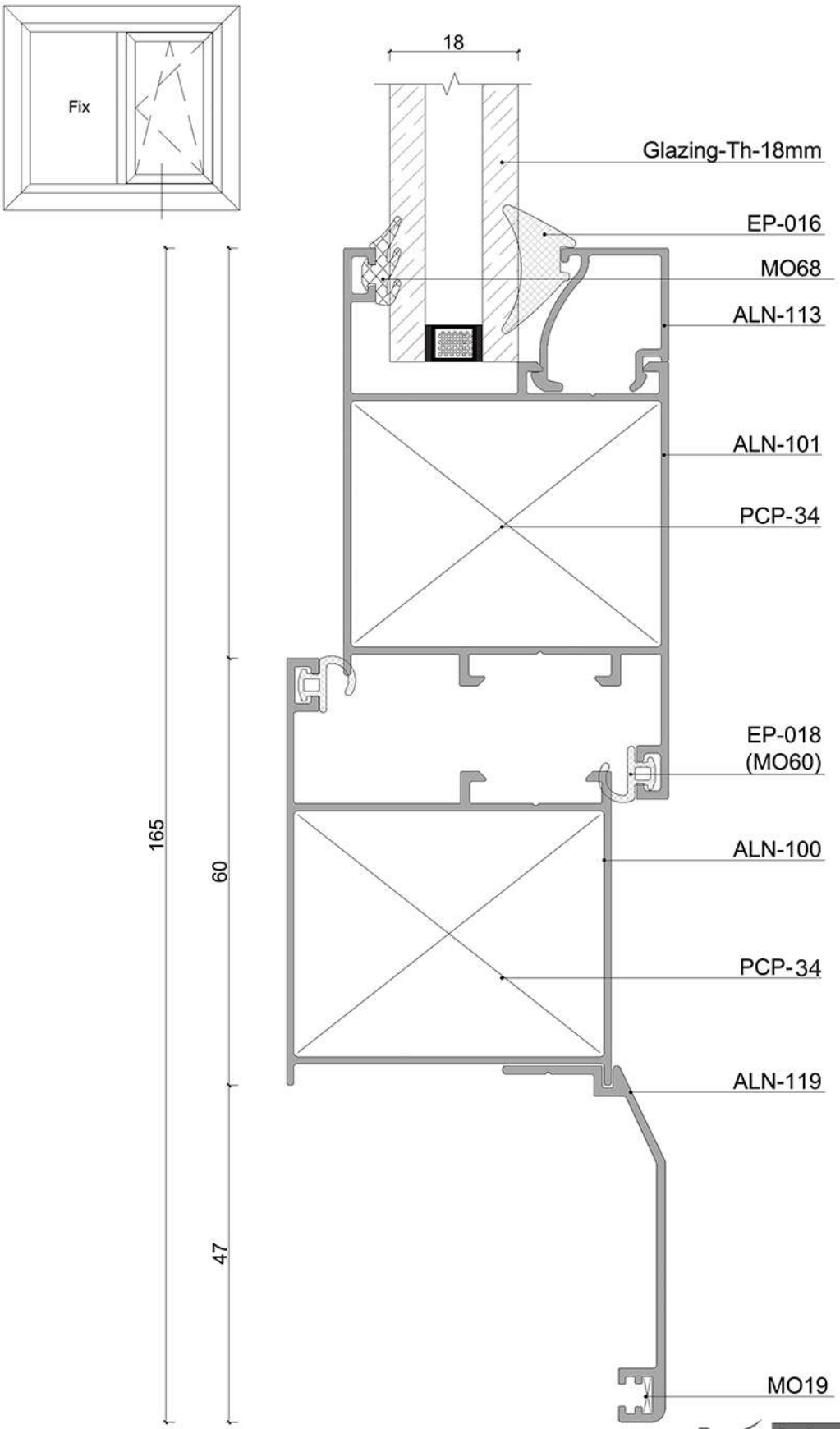
Fabrication Detailes





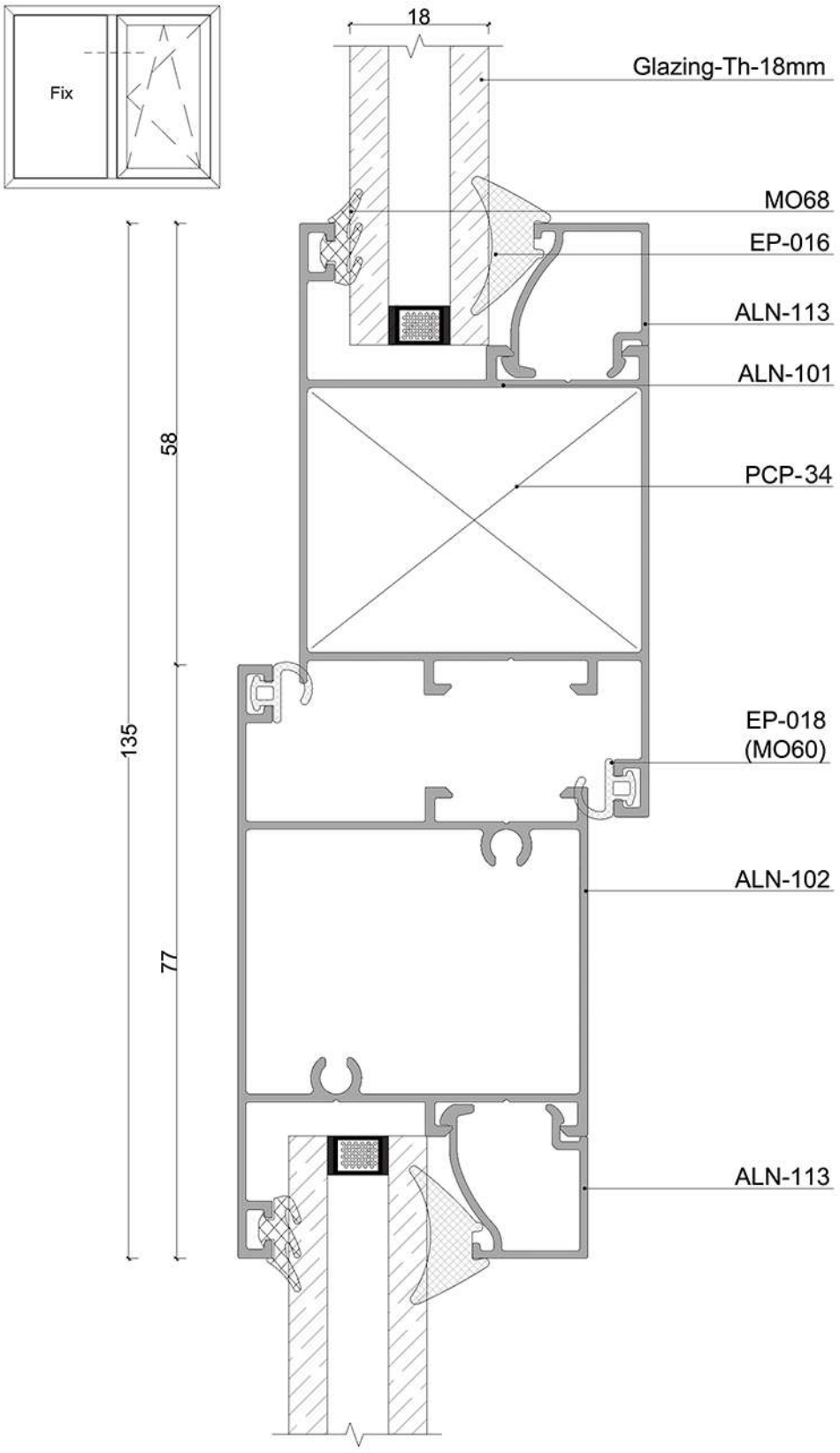
Light hinged System 45 Series

Fabrication Detailes



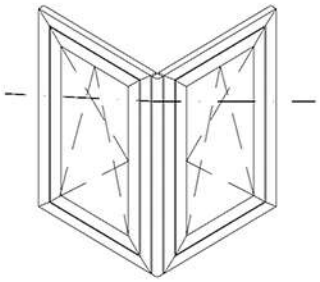
Light hinged System 45 Series

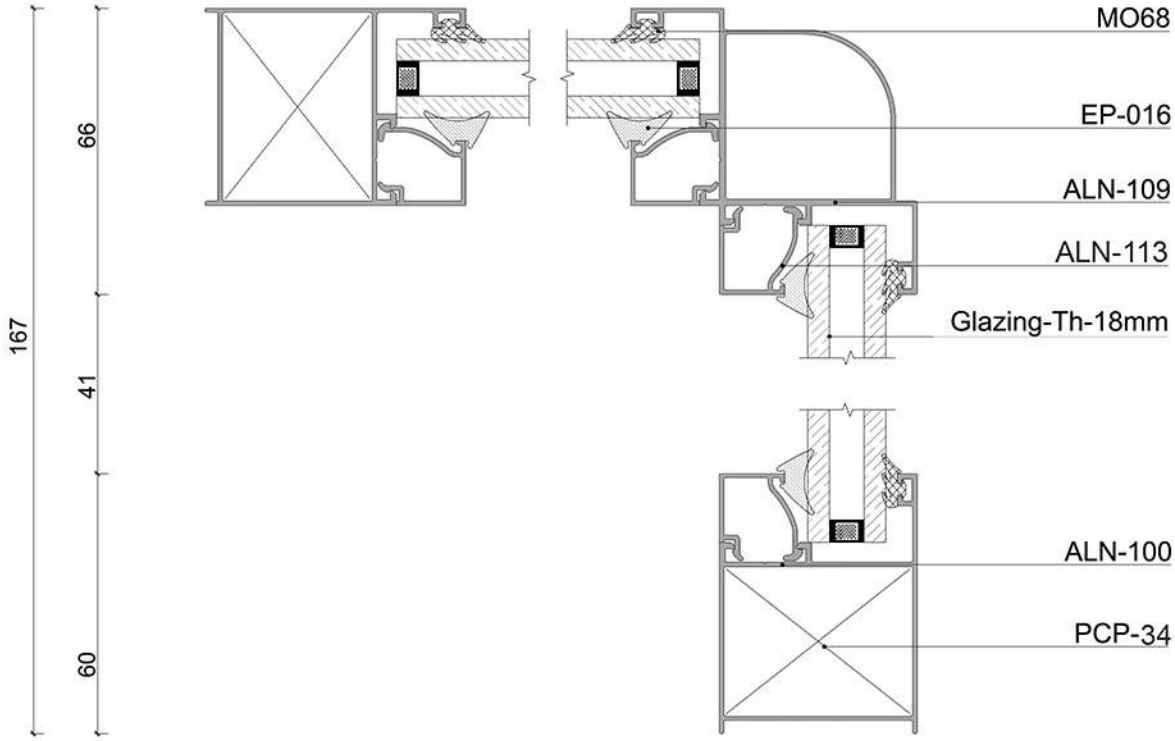
Fabrication Detailes



Light hinged System 45 Series

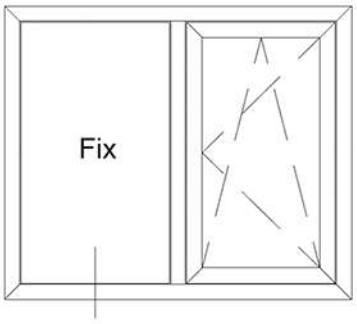
Fabrication Detailes

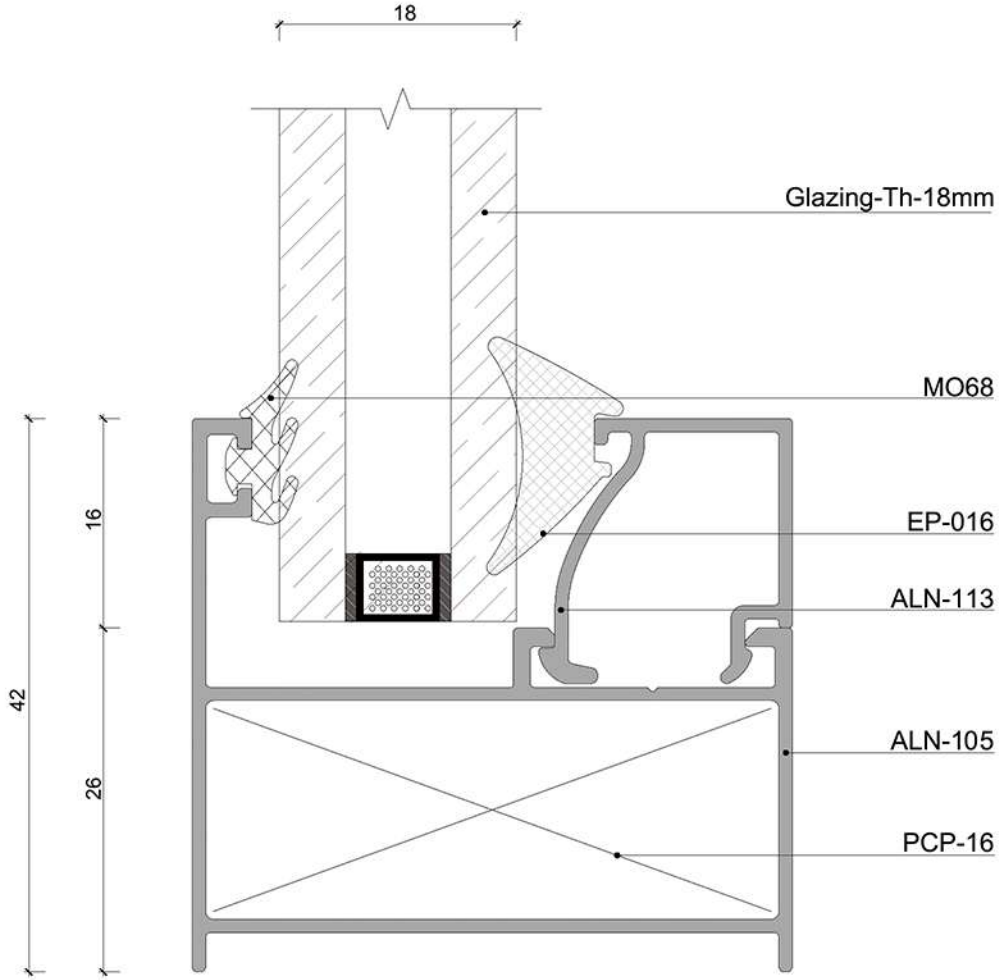




Light hinged System 45 Series

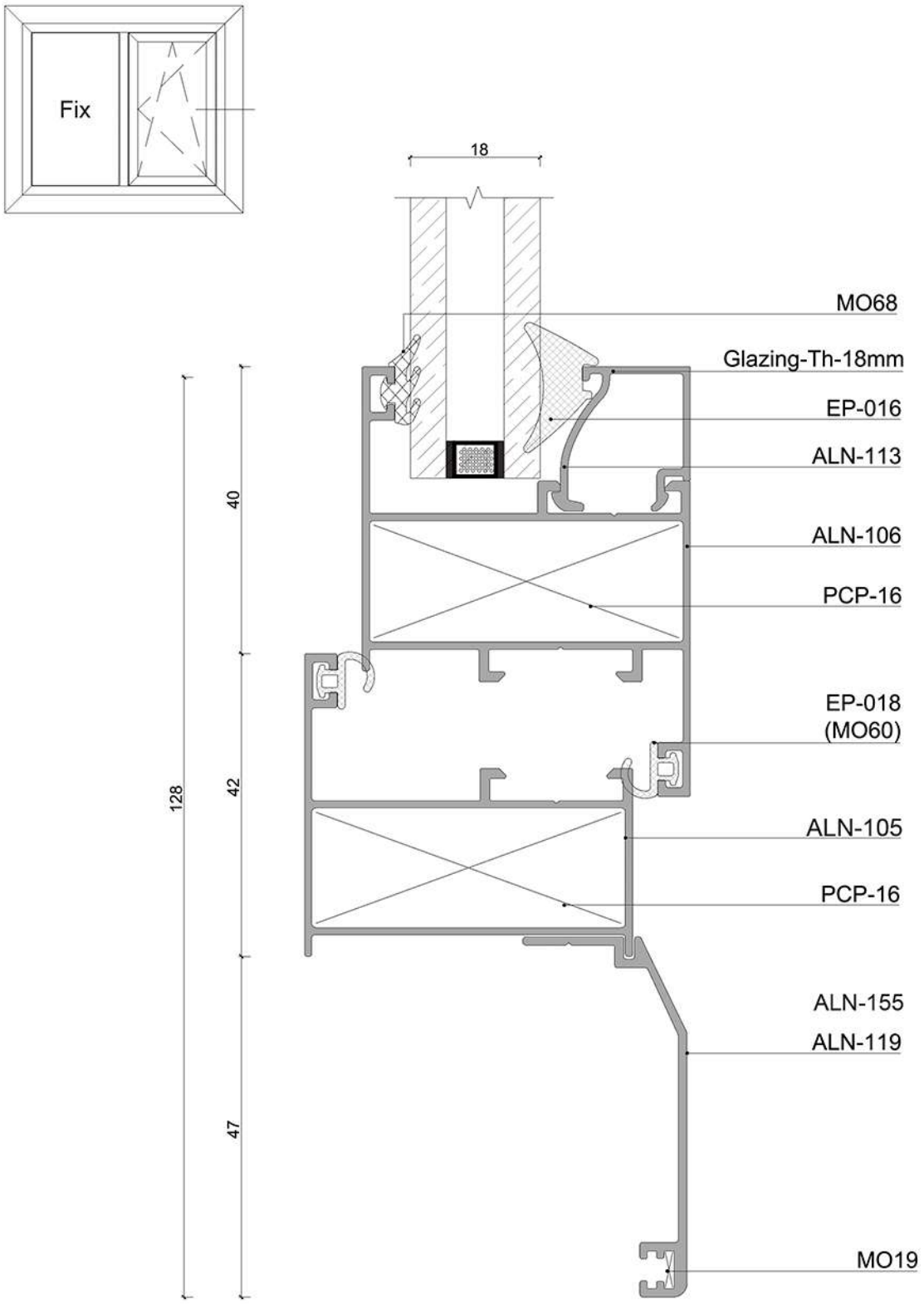
Fabrication Detailes





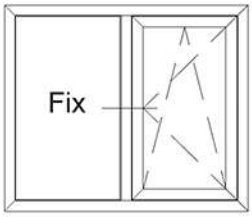
Light hinged System 45 Series

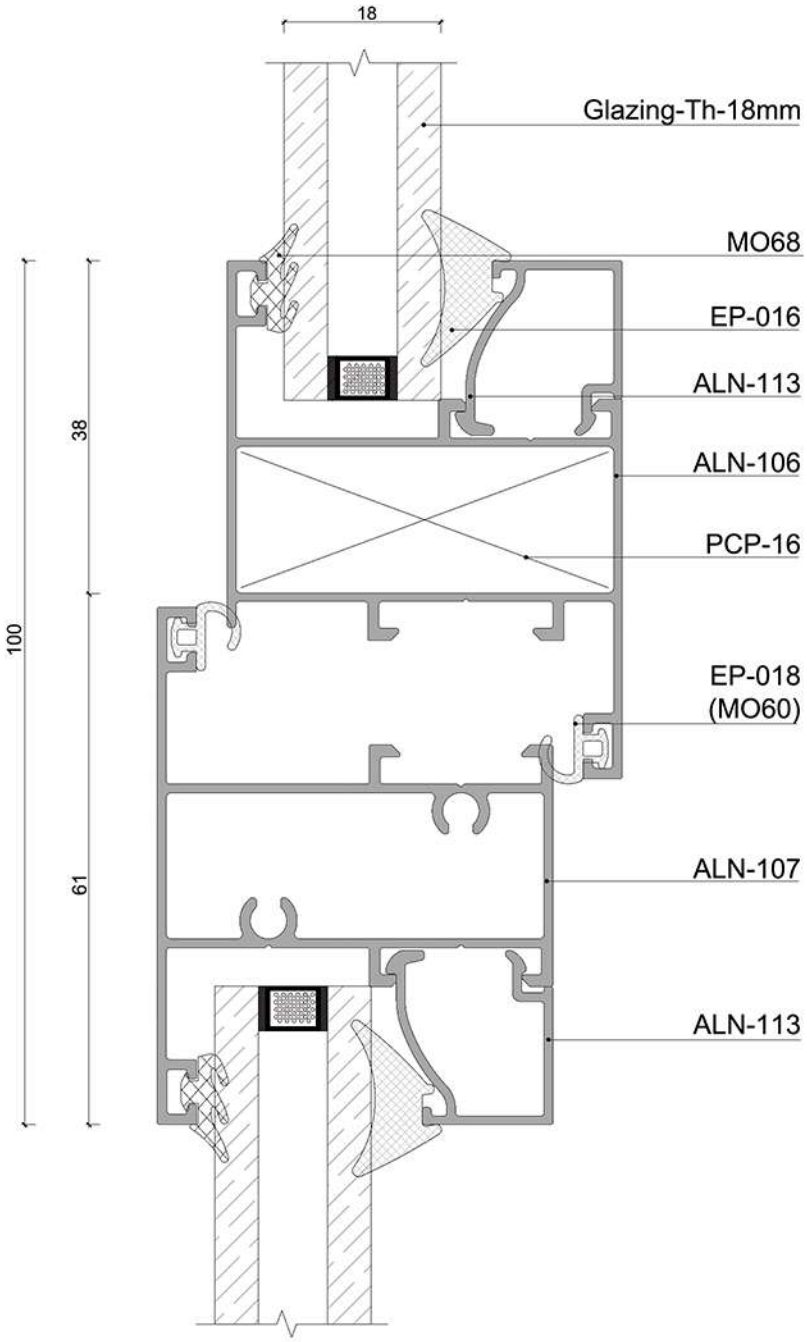
Fabrication Detailes



Light hinged System 45 Series

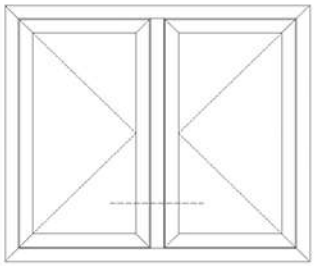
Fabrication Detailes

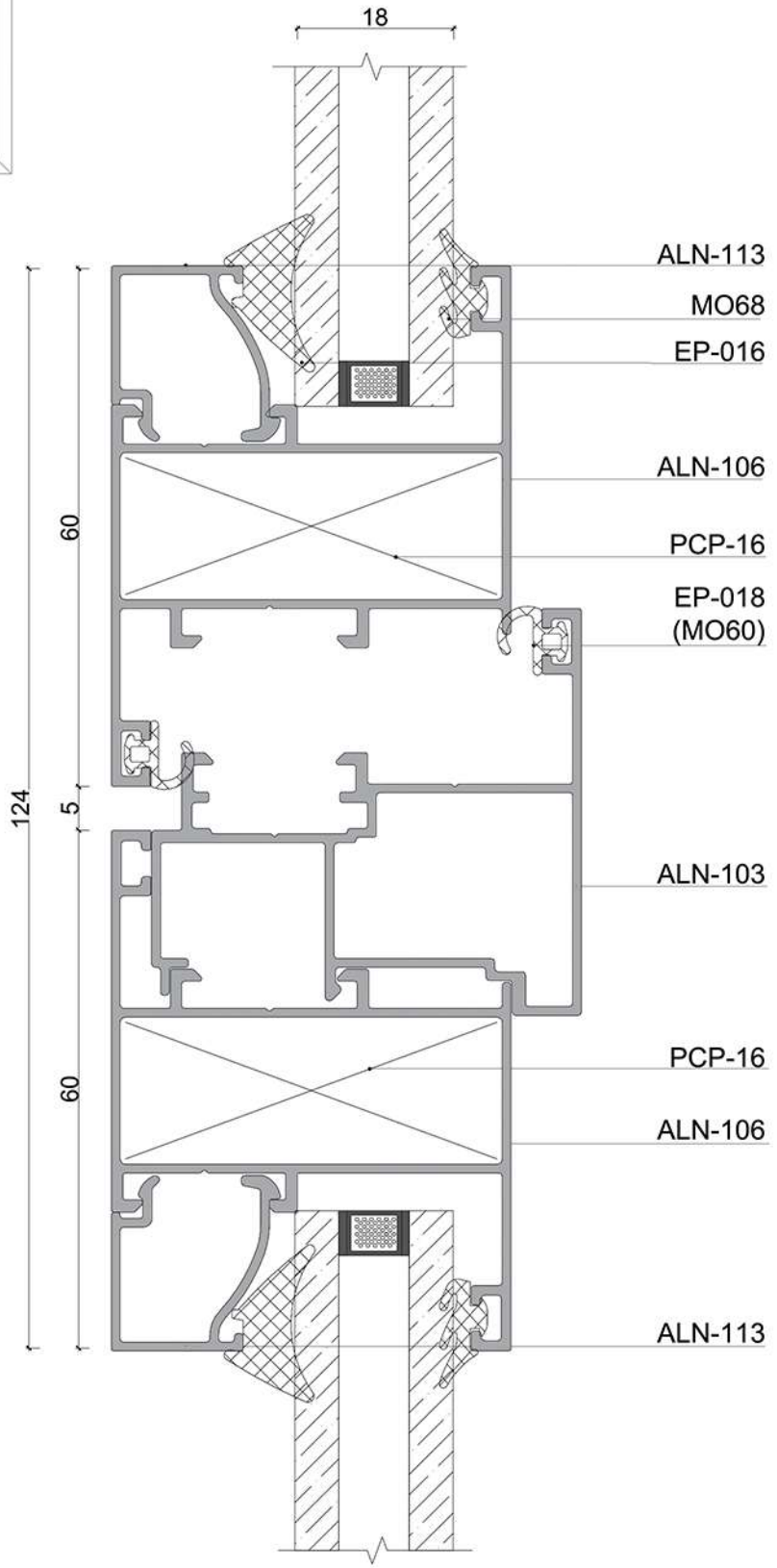




Light hinged System 45 Series

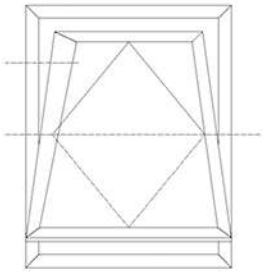
Fabrication Detailes

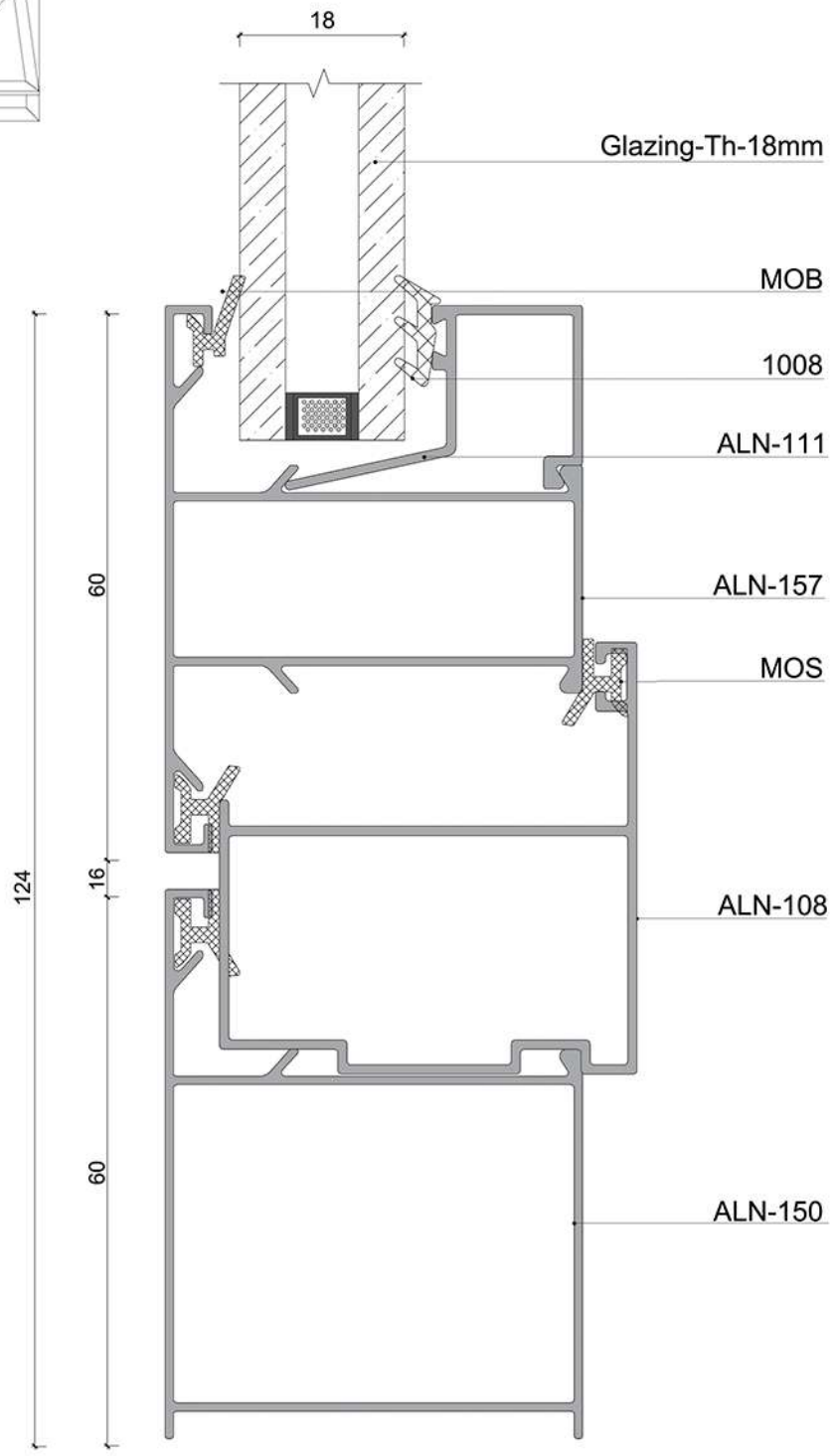




Light hinged System 45 Series

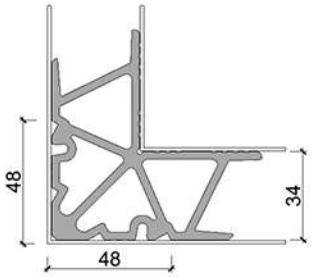
Fabrication Detailes



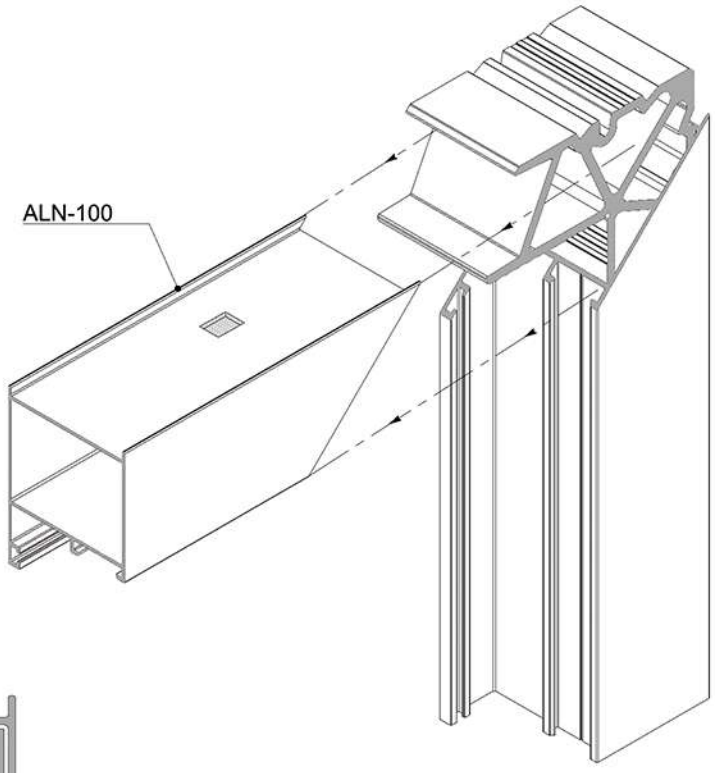


Light hinged System 45 Series

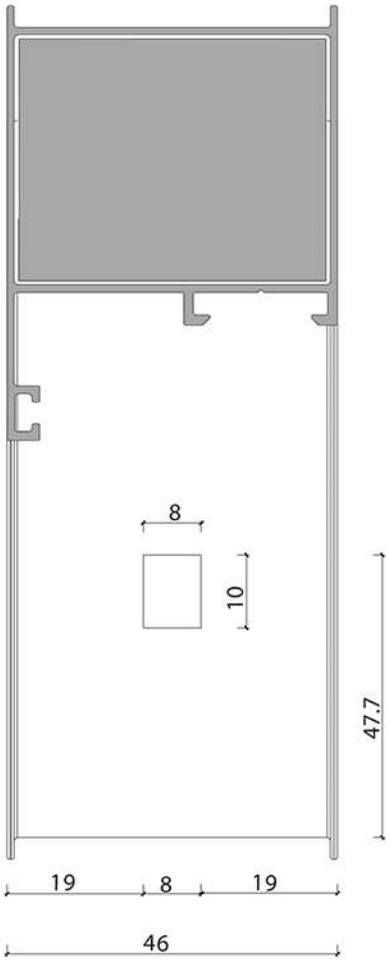
Assembly Drawing

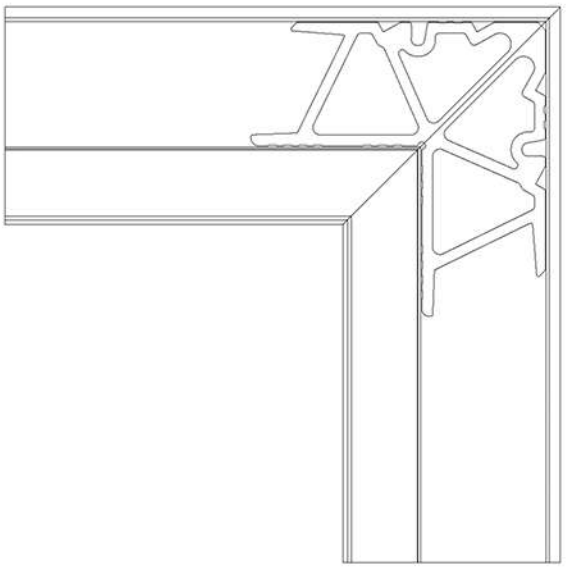


A: PCP-34 /43 mm



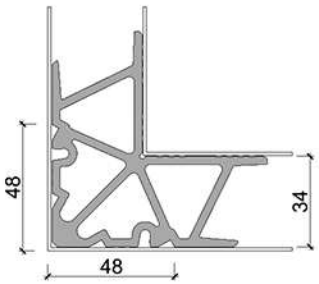
ALN-100



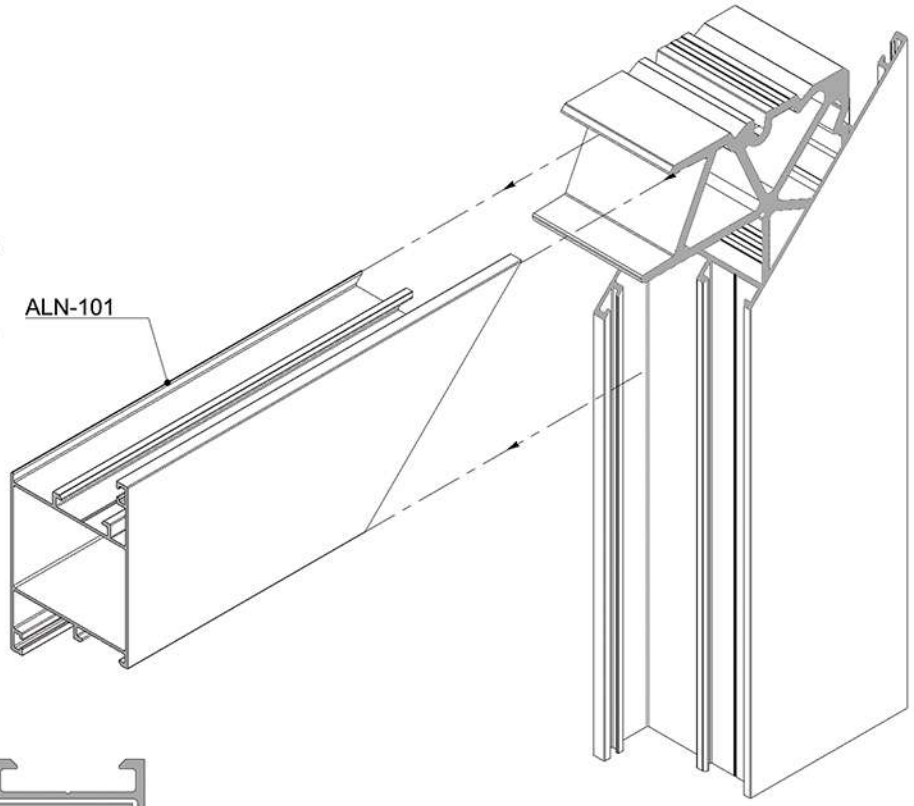


Light hinged System 45 Series

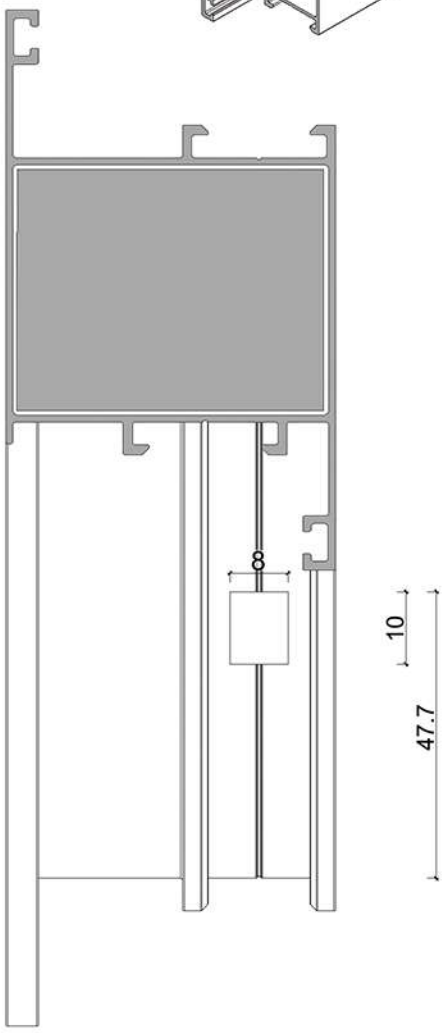
Assembly Drawing

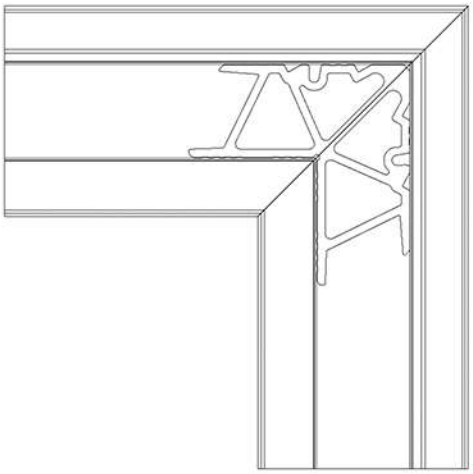


A: PCP- 34 / 43 mm



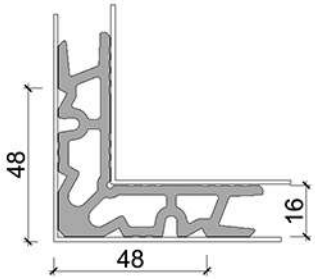
ALN-101



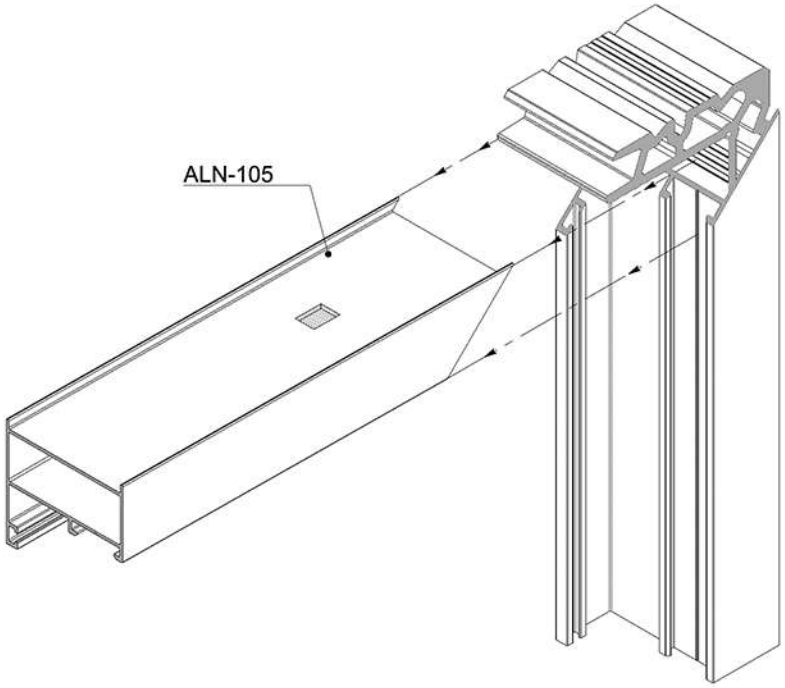


Light hinged System 45 Series

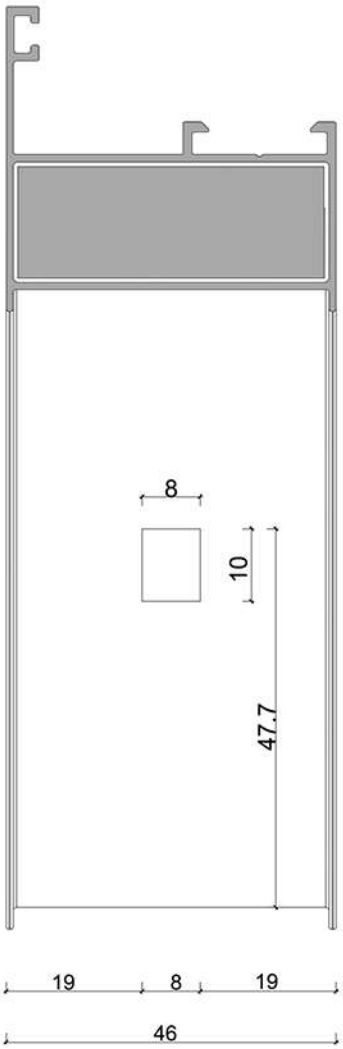
Assembly Drawing

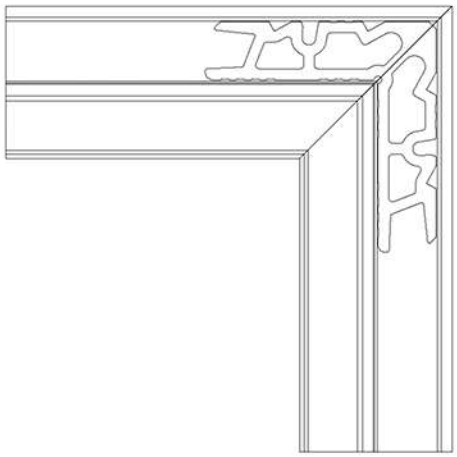


A: PCP- 16 / 43 mm



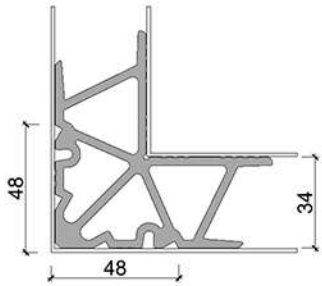
ALN-155



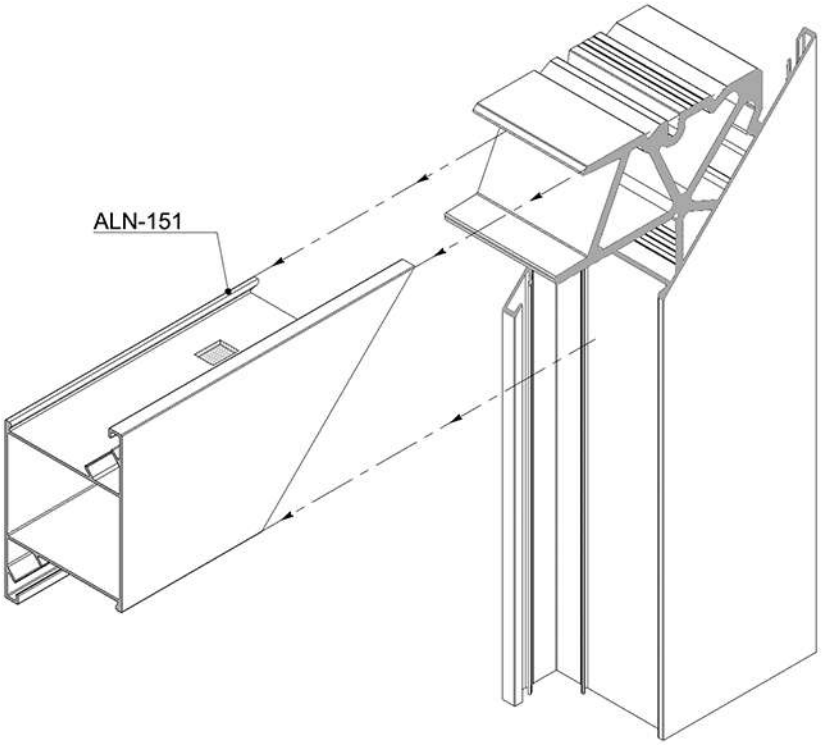


Light hinged System 45 Series

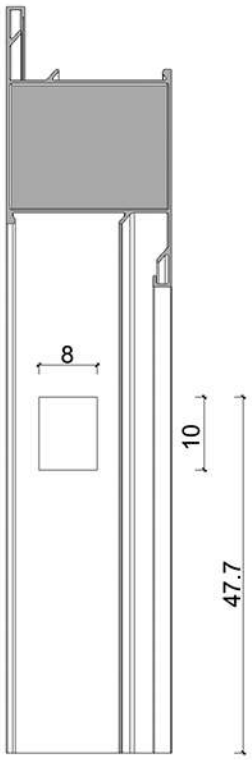
Assembly Drawing

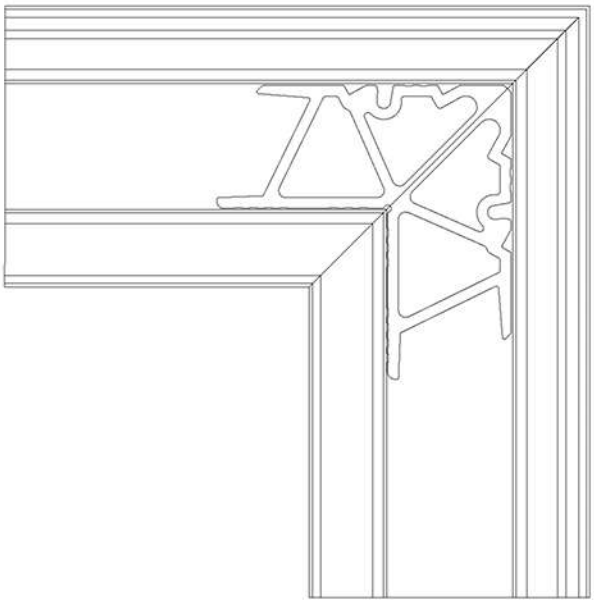


A: PCP- 34 / 43 mm



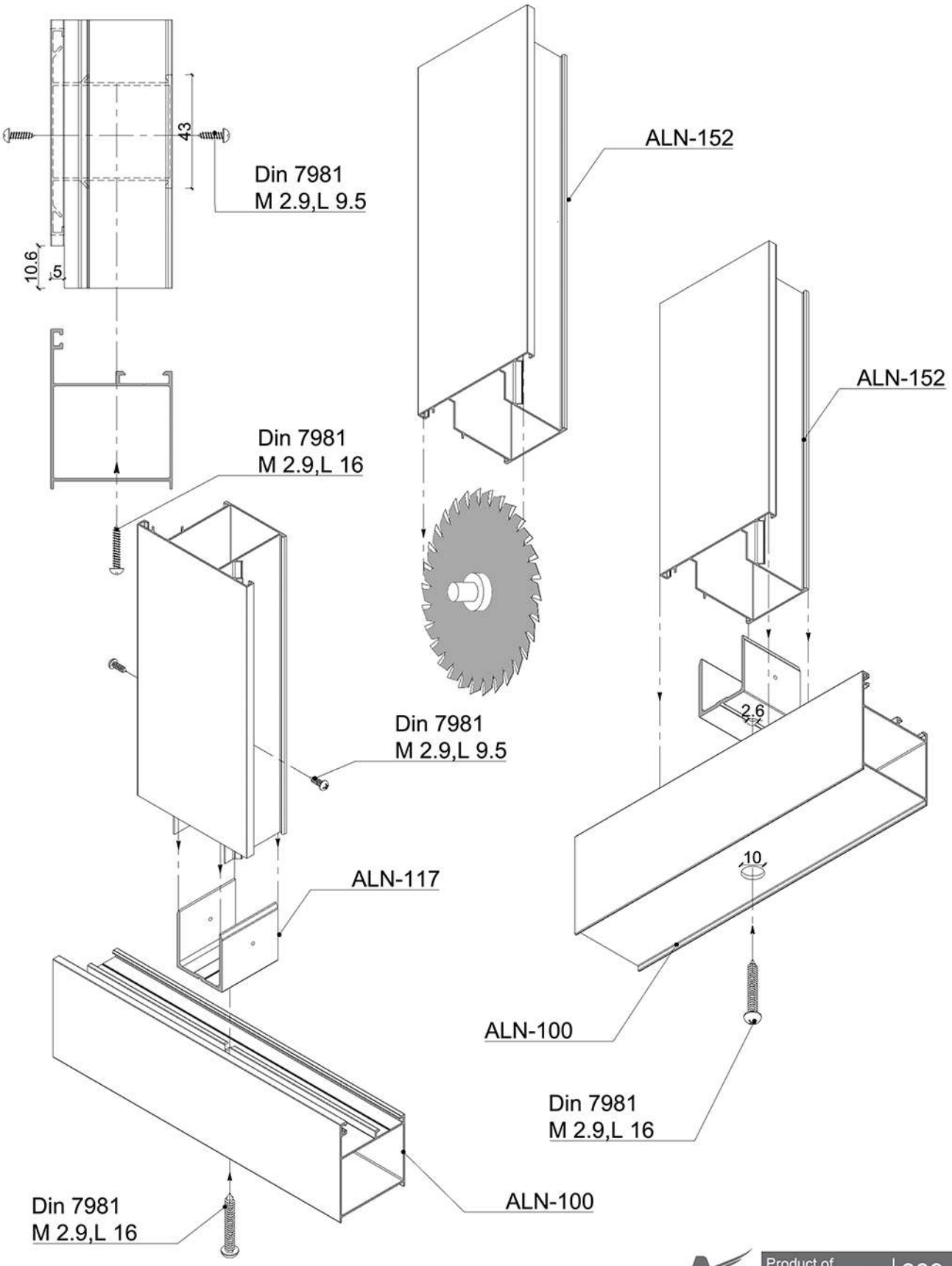
ALN-151





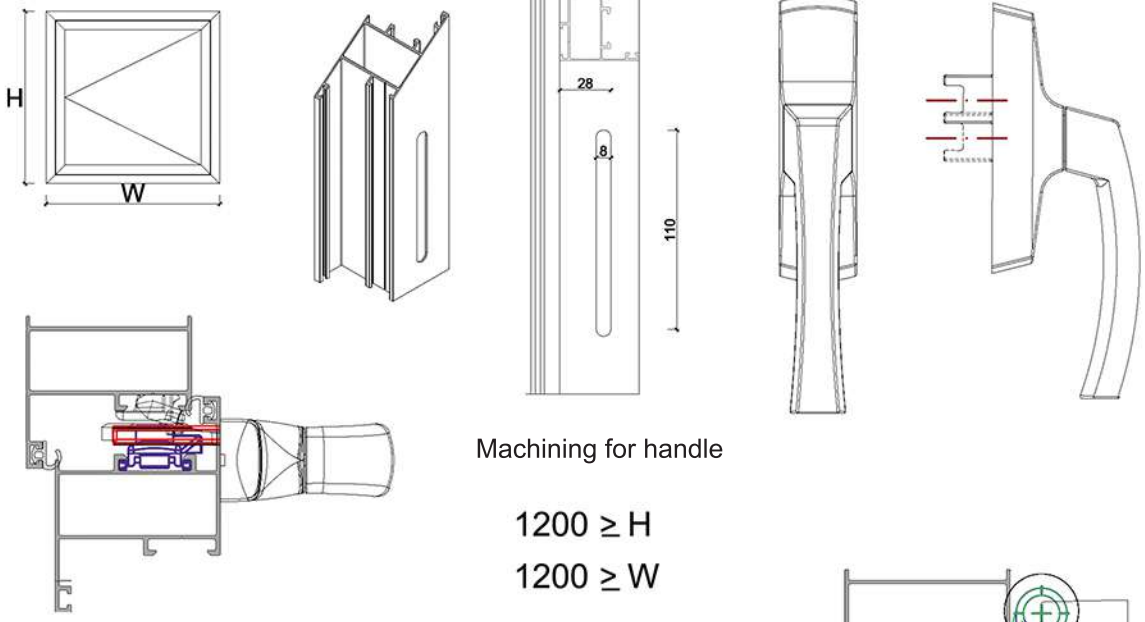
Light hinged System 45 Series

Assembly Drawing



Light hinged System 45 Series

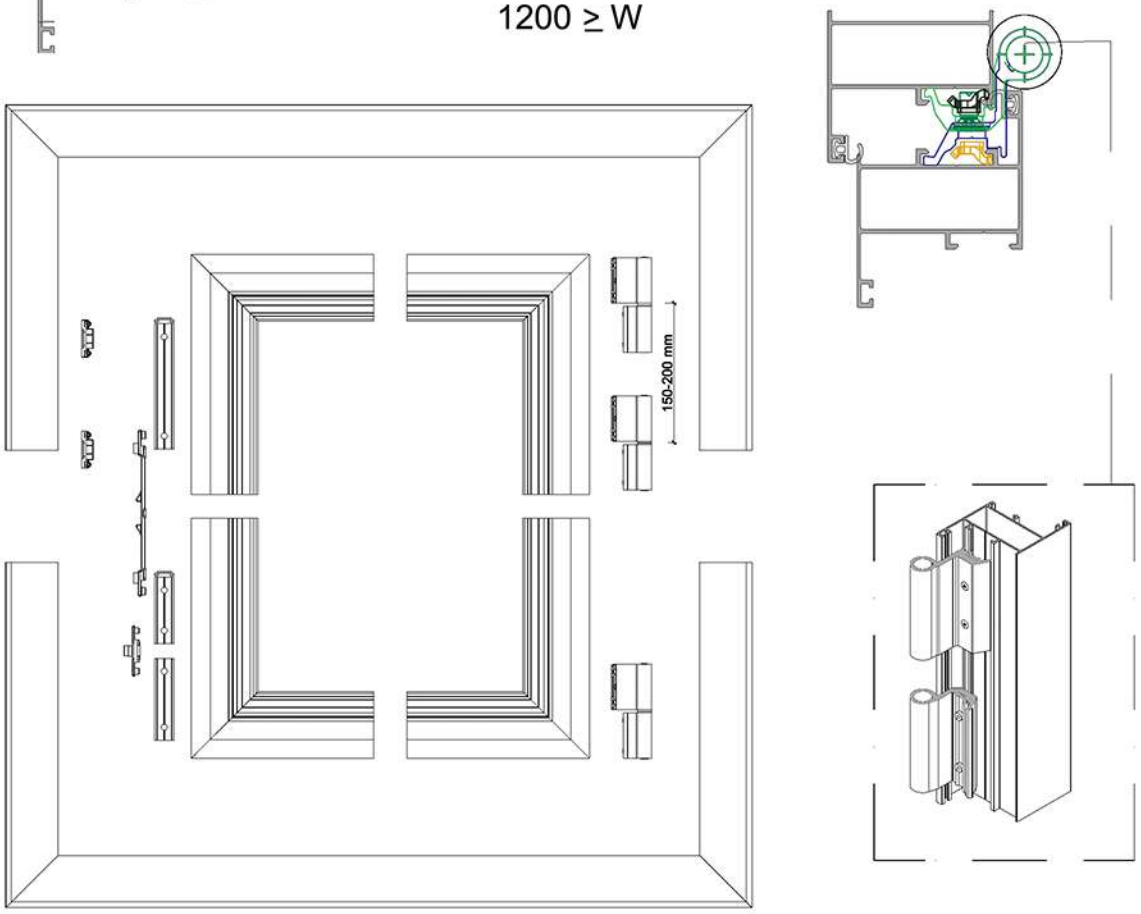
Hardware Installation



Machining for handle

1200 ≥ H

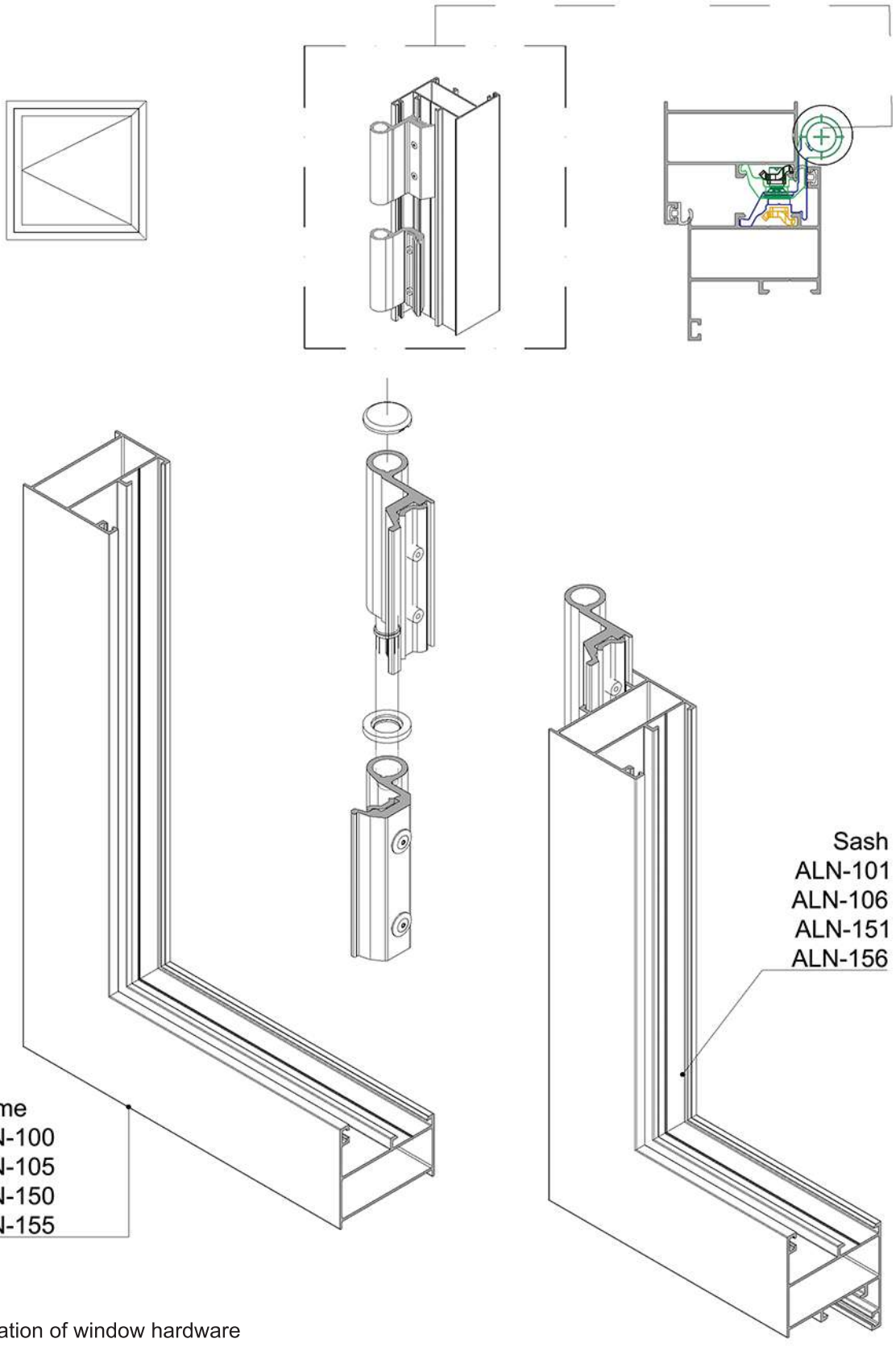
1200 ≥ W



Installation of turn Hardware

Light hinged System 45 Series

Hardware Installation



Installation of window hardware

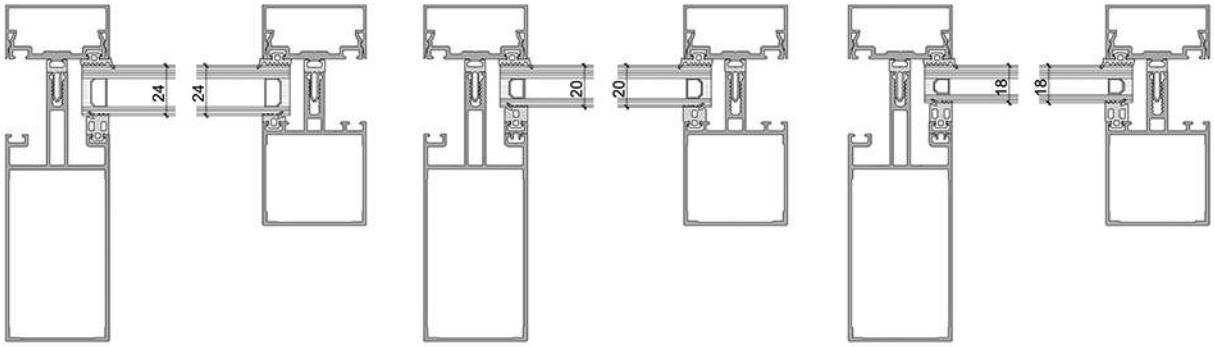
Facade System



Face Cap System

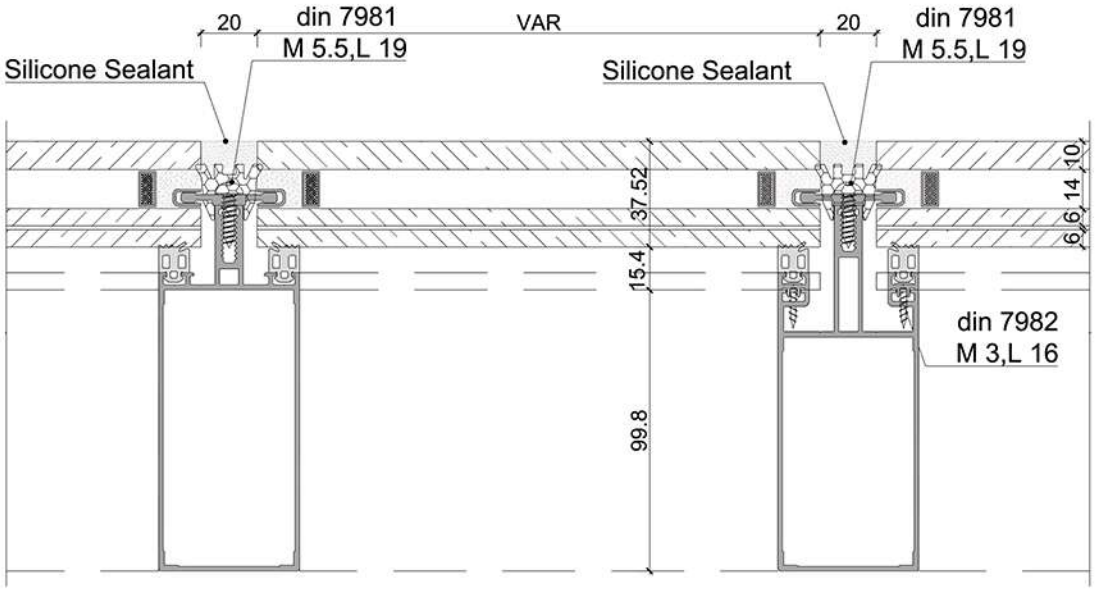
Glazing table

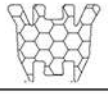
Glazing Thickness	34 mm	30 mm	28 mm	26 mm	24 mm	20 mm	18 mm
Gasket Pressure Plate	EP-001	EP-001	EP-001	EP-001	EP-001	EP-001	EP-001
Gasket Mullion	EP-003	EP-005	EP-005	EP-002	EP-002	EP-004	EP-005
Gasket Trunsom	EP-006	EP-008	EP-008	EP-005	EP-005	EP-004	EP-005
Distance Profile Mullion	FCD-136	FCD-137	FCD-137	-	-	-	-
Distance Profile Trunsom	FCD-136	FCD-137	FCD-137	-	-	FCD-136	FCD-136
Auxiliary Profile Mullion	PA-906	PA-906	PA-905	PA-900	PA-900	PA-900	PA-900
Auxiliary Profile Trunsom	PA-906	PA-906	PA-905	PA-900	PA-900	PA-900	PA-900
Leveling Plate Trunsom	AK-P08	AK-P08	AK-P08	AK-P04	AK-P04	AK-P04	AK-P04
Glass support Trunsom	FCD-145	FCD-145	FCD-145	FCD-144	FCD-144	FCD-144	FCD-144



SG System

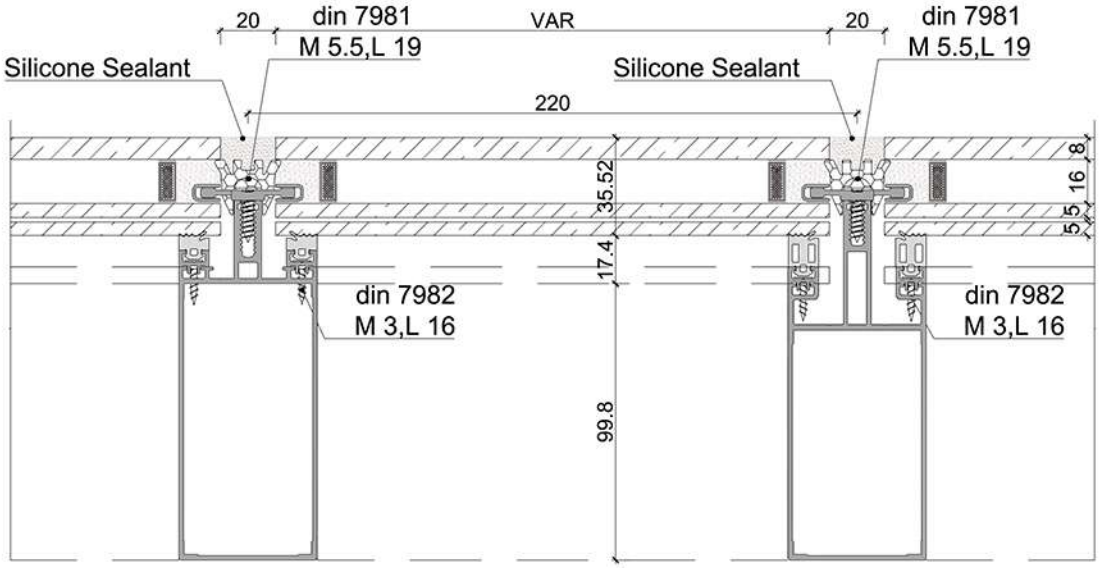
Glazing table



Straight Detail - Glazing Thikness 38 mm		
IMAGES	DESCRIPTION	CODE
	Mullion	FCD-102
	Transom	FCD-107
	Clamp	FCD-140
	U-Channel	FCD-139
	Ledge Sealing	AK-825
	Distance Profile Mullion	FCD-136
	Glazing Gasket - Mullion	EP-005
	Glazing Gasket - Trunsom	EP-005

SG System

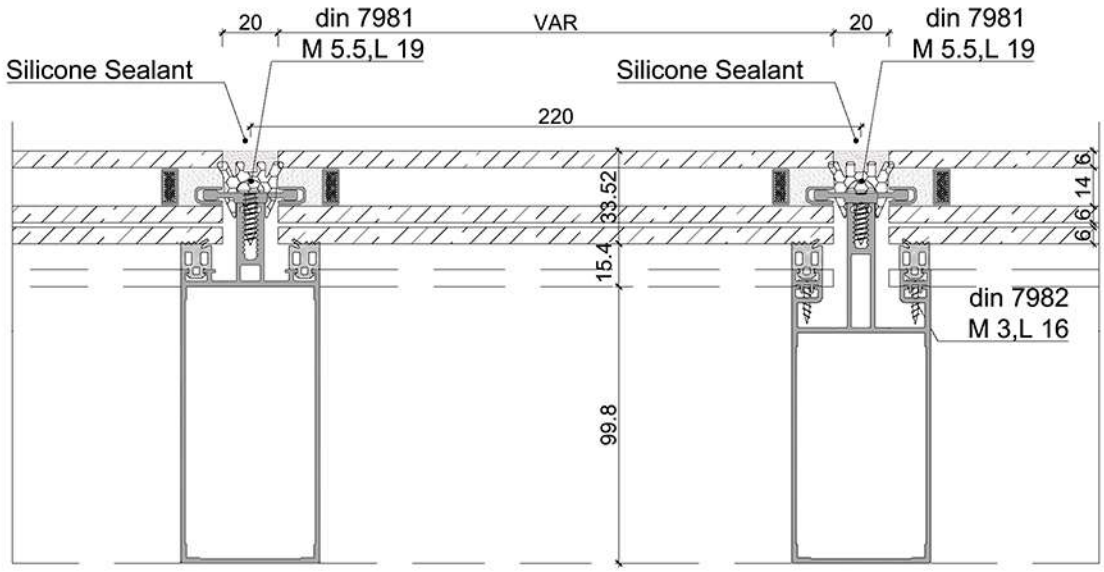
Glazing table

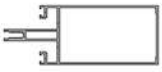


Straight Detail - Glazing Thikness 36 mm		
IMAGES	DESCRIPTION	CODE
	Mullion	FCD-102
	Transom	FCD-107
	Clamp	FCD-140
	U-Channel	FCD-139
	Ledge Sealing	AK-825
	Distance Profile Mullion	FCD-136
	Glazing Gasket - Mullion	EP-003
	Glazing Gasket - Trunsom	EP-006

SG System

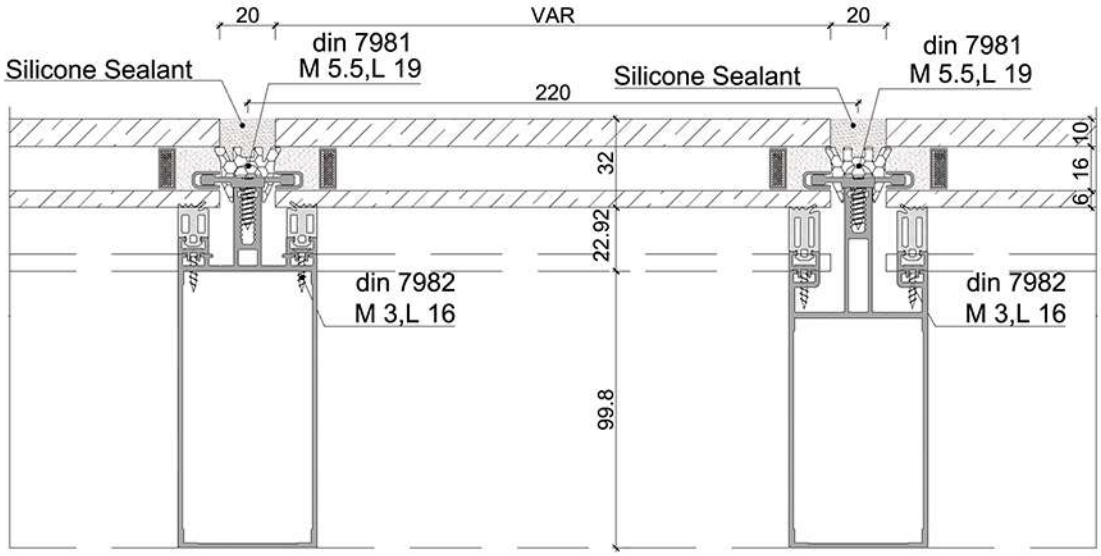
Glazing table

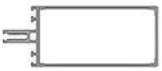


Straight Detail - Glazing Thikness 34 mm		
IMAGES	DESCRIPTION	CODE
	Mullion	FCD-102
	Transom	FCD-107
	Clamp	FCD-140
	U-Channel	FCD-139
	Ledge Sealing	AK-825
	Distance Profile Mullion	FCD-136
	Glazing Gasket - Mullion	EP-005
	Glazing Gasket - Trunsom	EP-005

SG System

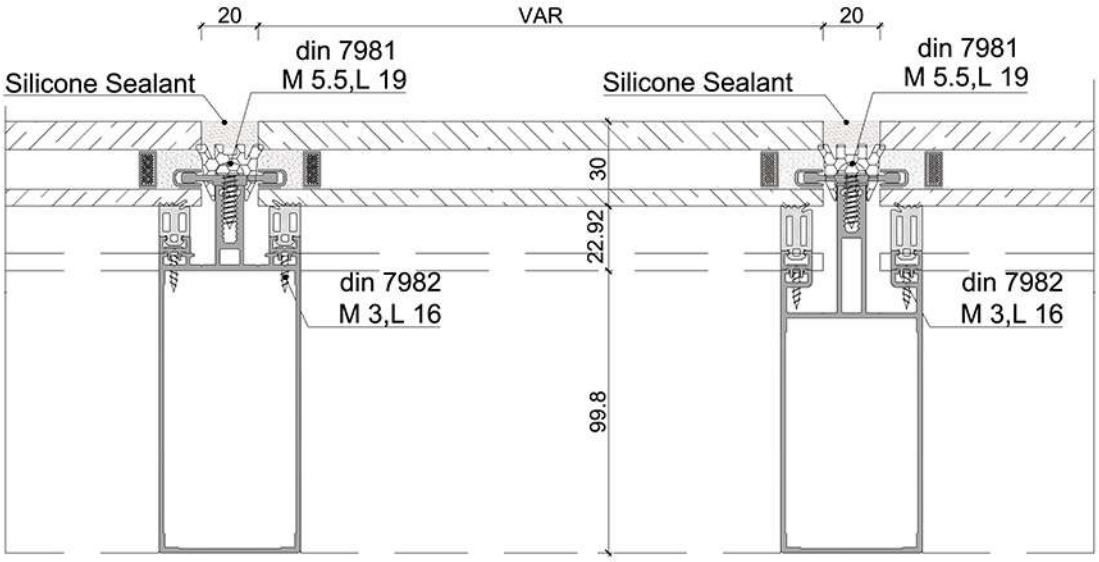
Glazing table



Straight Detail - Glazing Thikness 32 mm		
IMAGES	DESCRIPTION	CODE
	Mullion	FCD-102
	Transom	FCD-107
	Clamp	FCD-140
	U-Channel	FCD-139
	Ledge Sealing	AK-825
	Distance Profile Mullion	FCD-137
	Glazing Gasket - Mullion	EP-006
	Distance Profile Mullion	FCD-136
	Glazing Gasket - Trunsom	EP-008

SG System

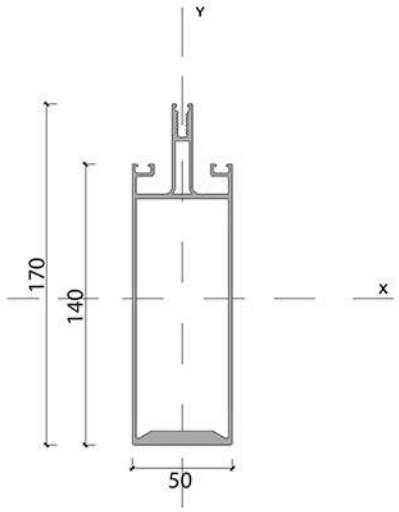
Glazing table

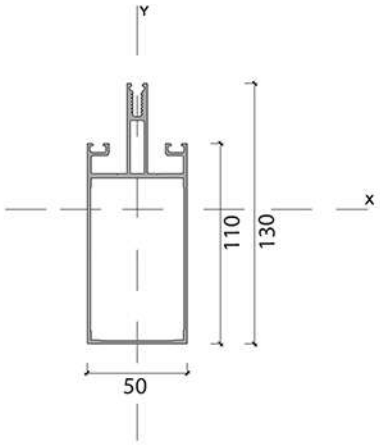


Straight Detail - Glazing Thikness 30 mm		
IMAGES	DESCRIPTION	CODE
	Mullion	FCD-102
	Transom	FCD-107
	Clamp	FCD-140
	U-Channel	FCD-139
	Ledge Sealing	AK-825
	Distance Profile Mullion	FCD-137
	Glazing Gasket - Mullion	EP-006
	Distance Profile Mullion	FCD-136
	Glazing Gasket - Trunsom	EP-008

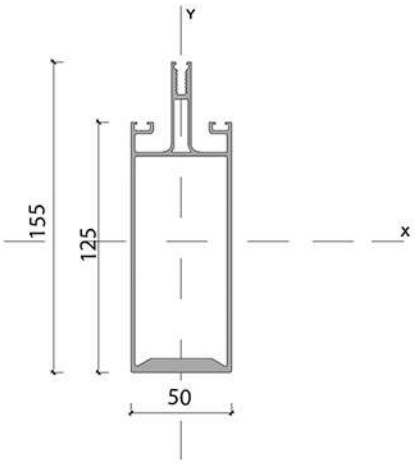
Face cap, SG and Frameless Systems

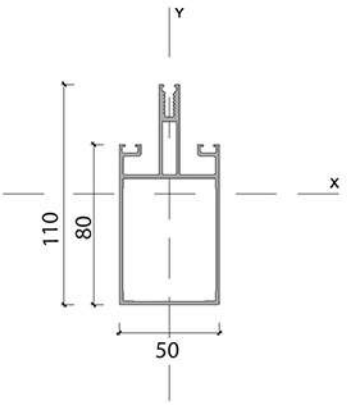
Profile & Accessories Information





I_X: 385.32 cm⁴	I_Y: 39.79 cm⁴	I_X: 115.99 cm⁴	I_Y: 24.73 cm⁴
Mullion: FCD-100	Weight: 3156 gr/m	Mullion: FCD-102	Weight: 1998 gr/m

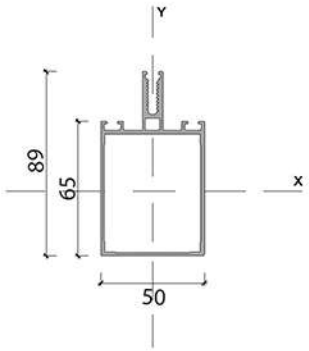




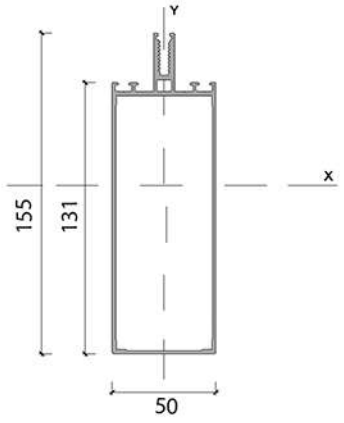
I_X: 299.75 cm⁴	I_Y: 36.33 cm⁴	I_X: 71.96 cm⁴	I_Y: 20.98 cm⁴
Mullion: FCD-101	Weight: 2994 gr/m	Mullion: FCD-103	Weight: 1825 gr/m

Face cap, SG and Frameless Systems

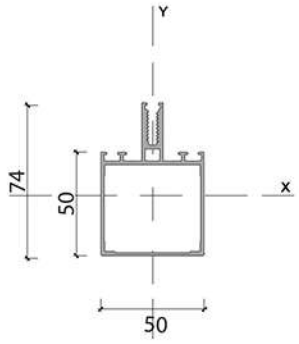
Profile & Accessories Information



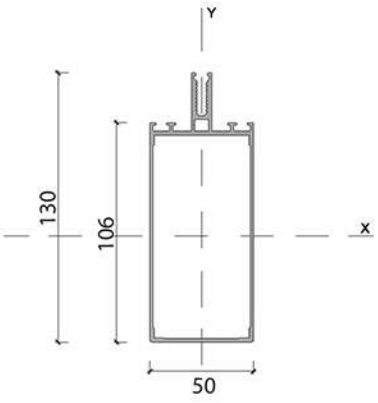
I_X: 42.61 cm⁴	I_Y: 16.52 cm⁴
Transom: FCD-104	Weight: 1480 gr/m



I_X: 197.87 cm⁴	I_Y: 28.89 cm⁴
Transom: FCD-106	Weight: 2049 gr/m



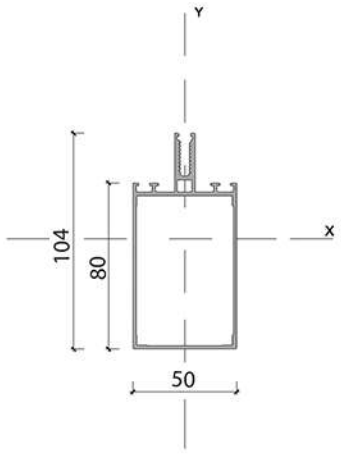
I_X: 25.19 cm⁴	I_Y: 13.70 cm⁴
Transom: FCD-105	Weight: 1350 gr/m



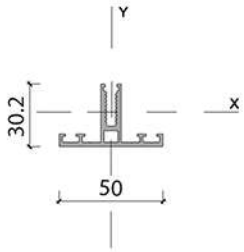
I_X: 122.36 cm⁴	I_Y: 24.20 cm⁴
Transom: FCD-107	Weight: 1833 gr/m

Face cap, SG and Frameless Systems

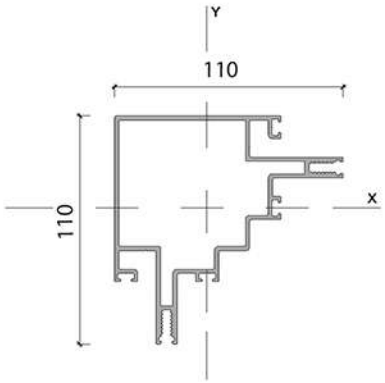
Profile & Accessories Information



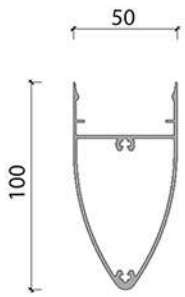
I_X: 65.99 cm⁴	I_Y: 19.33 cm⁴
Transom: FCD-108	Weight: 1609 gr/m



I_X: 2.19 cm⁴	I_Y: 3.61 cm⁴
Transom: FCD-135	Weight: 737 gr/m



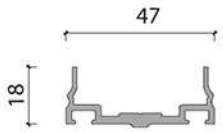
I_X: 108.53 cm⁴	I_Y: 108.55 cm⁴
Corner Profile : FCD-134	Weight: 2773 gr/m



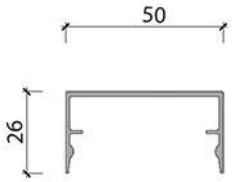
Cover Cap : FCD-109	Weight : 1307 gr/m

Face cap, SG and Frameless Systems

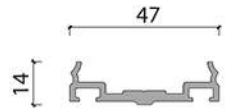
Profile & Accessories Information



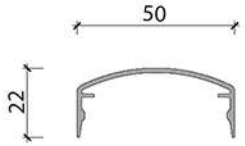
Pressure Plat : FCD-110	Weight : 516 gr/m



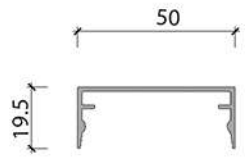
Cover Cap : FCD-113	Weight : 421 gr/m



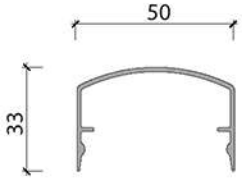
Pressure Plat : FCD-111	Weight : 470 gr/m



Cover Cap : FCD-114	Weight : 340 gr/m



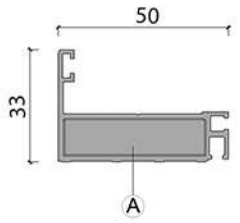
Cover Cap : FCD-112	Weight : 370 gr/m



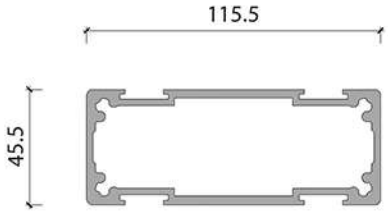
Cover Cap : FCD-115	Weight : 421 gr/m

Face cap, SG and Frameless Systems

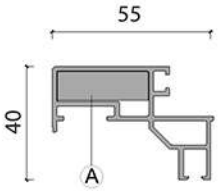
Profile & Accessories Information



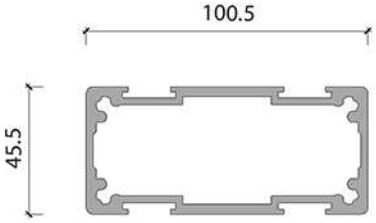
Ventilation: FCD-116	A: PCP-10/40.7 mm
Weight : 624 gr/m	



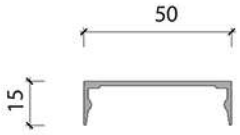
Expansion Joint Profile : FCD-121	Weight : 3119 gr/m



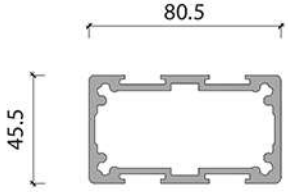
Ventilation: FCD-117	A: PCP-10/31.3mm
Weight : 880 gr/m	



Expansion Joint Profile : FCD-122	Weight : 2835 gr/m



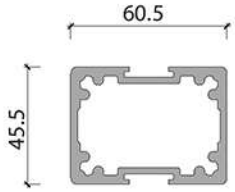
Cover Cap : FCD-118	Weight : 329 gr/m



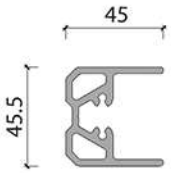
Expansion Joint Profile : FCD-123	Weight : 2457 gr/m

Face cap, SG and Frameless Systems

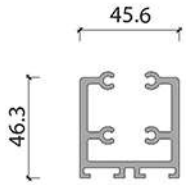
Profile & Accessories Information



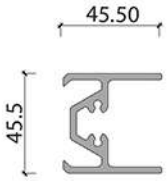
Expansion Joint Profile: FCD-124	Weight : 2130 gr/m



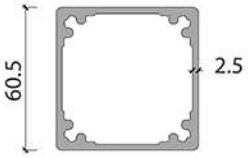
Expansion Joint Profile: FCD 127	Weight: 1590 gr/m



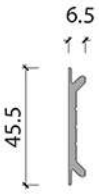
Expansion Joint Profile : FCD-125	Weight : 1785 gr/m



Expansion Joint Profile: FCD 128	Weight: 1393 gr/m



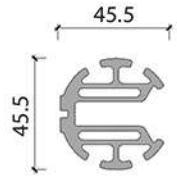
Expansion Joint Profile : FCD-126	Weight : 2165 gr/m



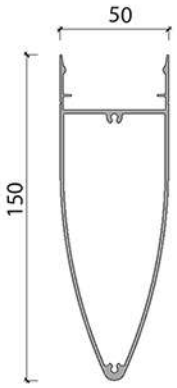
Connector Real Profile: FCD 129	Weight: 378 gr/m

Face cap, SG and Frameless Systems

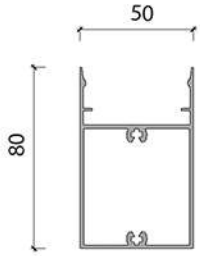
Profile & Accessories Information



Angular Expansion Joint Profile: FCD-130	Weight : 1670 gr/m



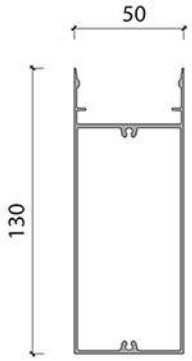
Cover Cap : FCD-133	Weight : 1671 gr/m



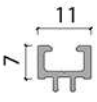
Cover Cap : FCD-131	Weight : 1264 gr/m



Adaptor: FCD-136	Weight: 97 gr/m



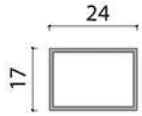
Cover Cap : FCD-132	Weight : 1636 gr/m



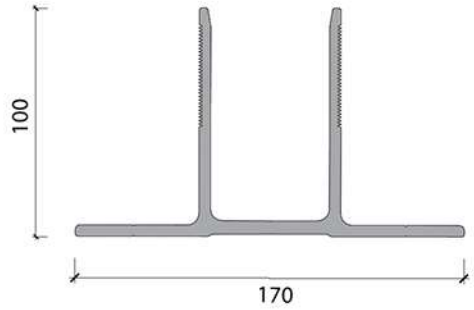
Adaptor: FCD-137	Weight: 104 gr/m

Face cap, SG and Frameless Systems

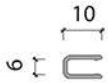
Profile & Accessories Information



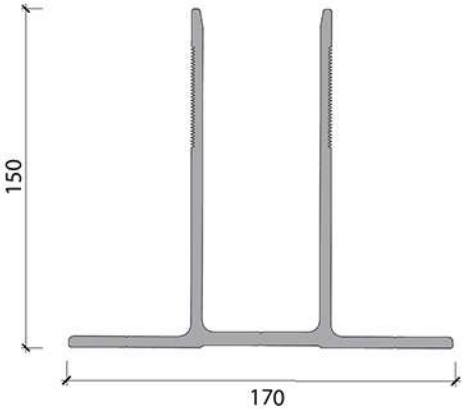
Profile : FCD-138	Weight : 211 gr/m



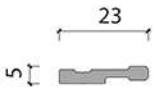
Profile : FCD-141	Weight : 4860 gr/m



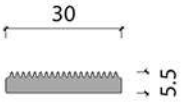
U-Channel : FCD-139	Weight : 62 gr/m



Profile : FCD-142	Weight : 6210 gr/m



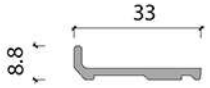
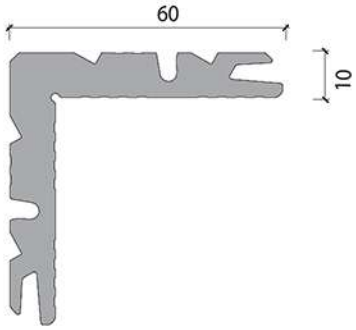
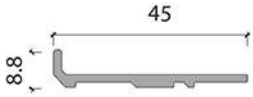
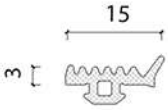
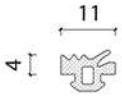
Clamp: FCD-140	Weight : 191 gr/m



Profile : FCD-143	Weight : 378

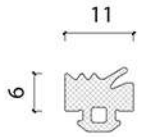
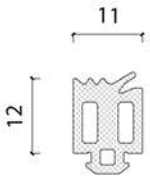
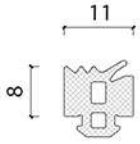
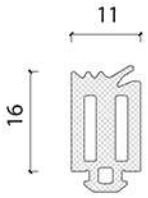
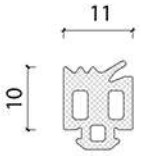
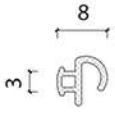
Face cap, SG and Frameless Systems

Profile & Accessories Information

			
Glass support: FCD-144	Weight: 232 gr/m	Corner: PCP-10	Weight : 2454 gr/m
			
Glass support: FCD-145	Weight: 292 gr/m	Gasket: EP-001	Weight : 66 gr/m
			
Profile: FCD-146	Weight : 969 gr/m	Gasket: EP-002	Weight: 60 gr/m

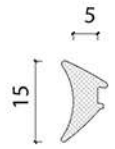
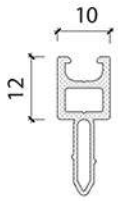
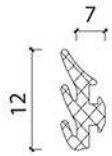
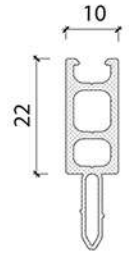
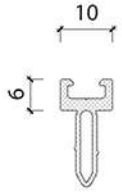
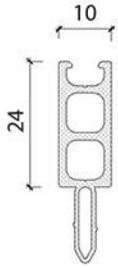
Face cap, SG and Frameless Systems

Profile & Accessories Information

			
Gasket: EP-003	Weight: 91 gr/m	Gasket: EP-006	Weight: 137gr/m
			
Gasket: EP-004	Weight: 109 gr/m	Gasket: EP-008	Weight: 153 gr/m
			
Gasket: EP-005	Weight: 121 gr/m	Gasket: EP-018	Weight : 27 gr/m

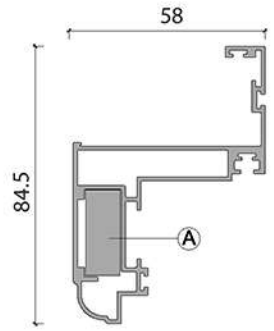
Face cap, SG and Frameless Systems

Profile & Accessories Information

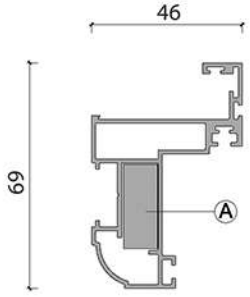
			
Gasket: EP-016	Weight : 77	Polyamide: PA-902	Weight: -
			
Gasket: MO68	Weight: -	Polyamide : PA-905	Weight: -
			
Polyamide: PA-900	Weight: -	Polyamide: PA-906	Weight: -

Face cap, SG and Frameless Systems

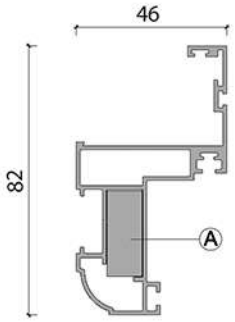
Profile & Accessories Information



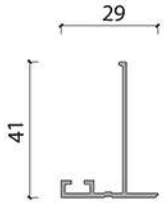
Profile : FCD-150	A: PCP-11/25.7 mm
Weight : 1156 gr/m	



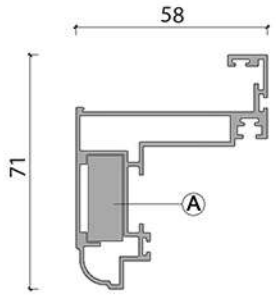
Profile : FCD-153	A: PCP-11/25.7 mm
Weight : 969 gr/m	



Profile : FCD-151	A: PCP-11/25.7 mm
Weight : 1021 gr/m	



Profile : FCD-154	Weight : 265 gr/m



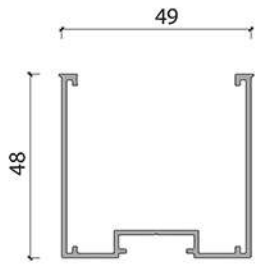
Profile : FCD-152	A: PCP-11/25.7 mm
Weight : 1102 gr/m	



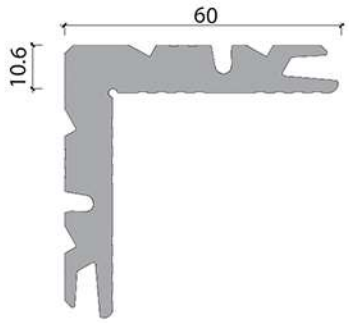
Profile : FCD-155	Weight : 86 gr/m

Face cap, SG and Frameless Systems

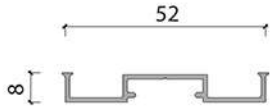
Profile & Accessories Information



Profile : FCD-156	Weight : 556 gr/m



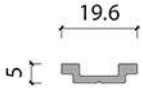
Corner Joint: PCP11	Weight: 2549 gr/m



Profile : FCD-157	Weight : 265 gr/m



Leveling Plat : AK-P04	Weight : -



Profile : ALN-331	Weight : 141 gr/m

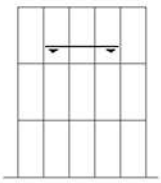


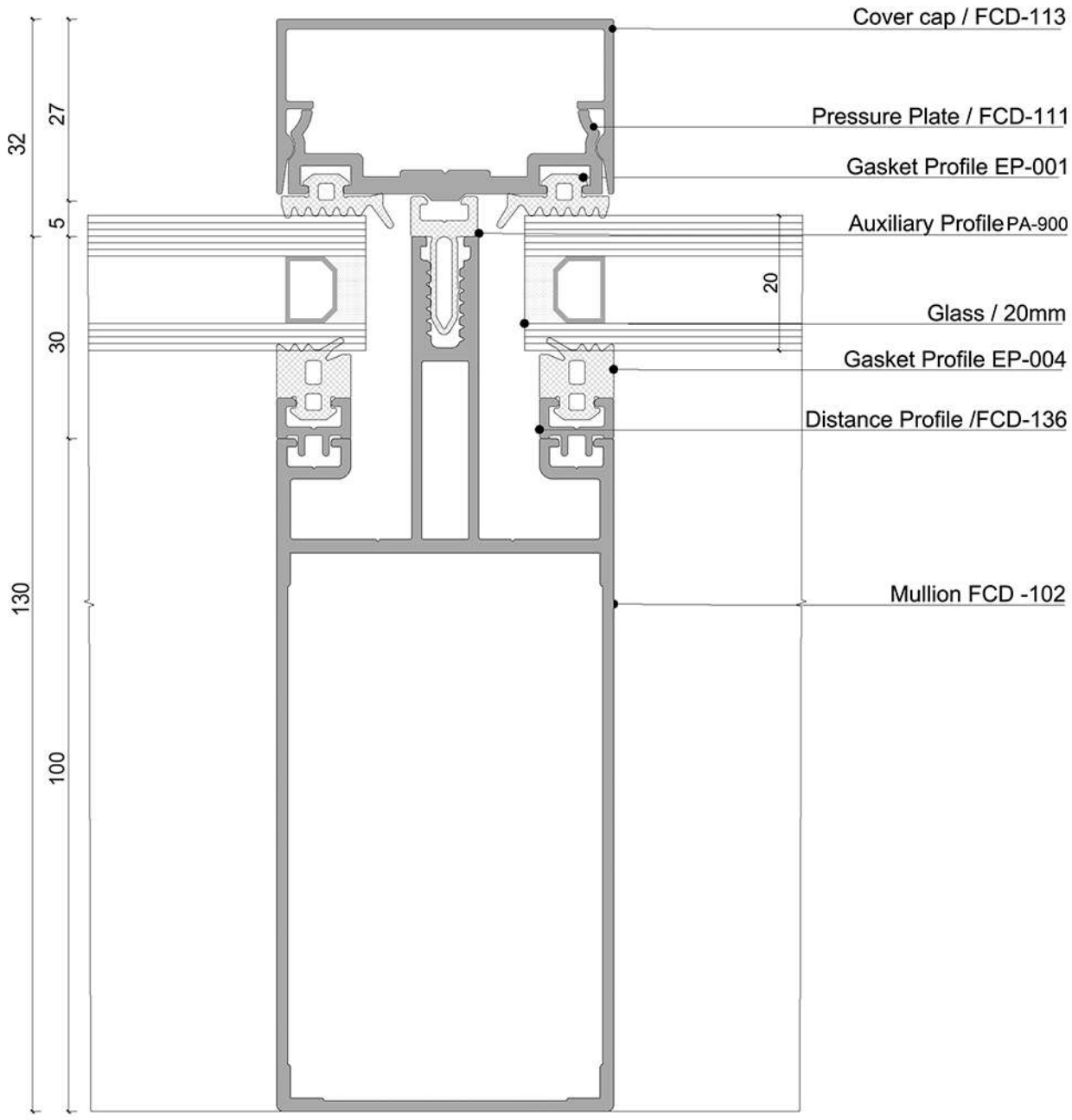
Leveling Plat : AK-P08	Weight : -

Face cap, SG and Frameless Systems

Fabrication Detailes

Vertical Section

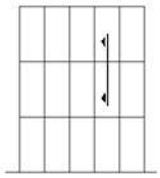


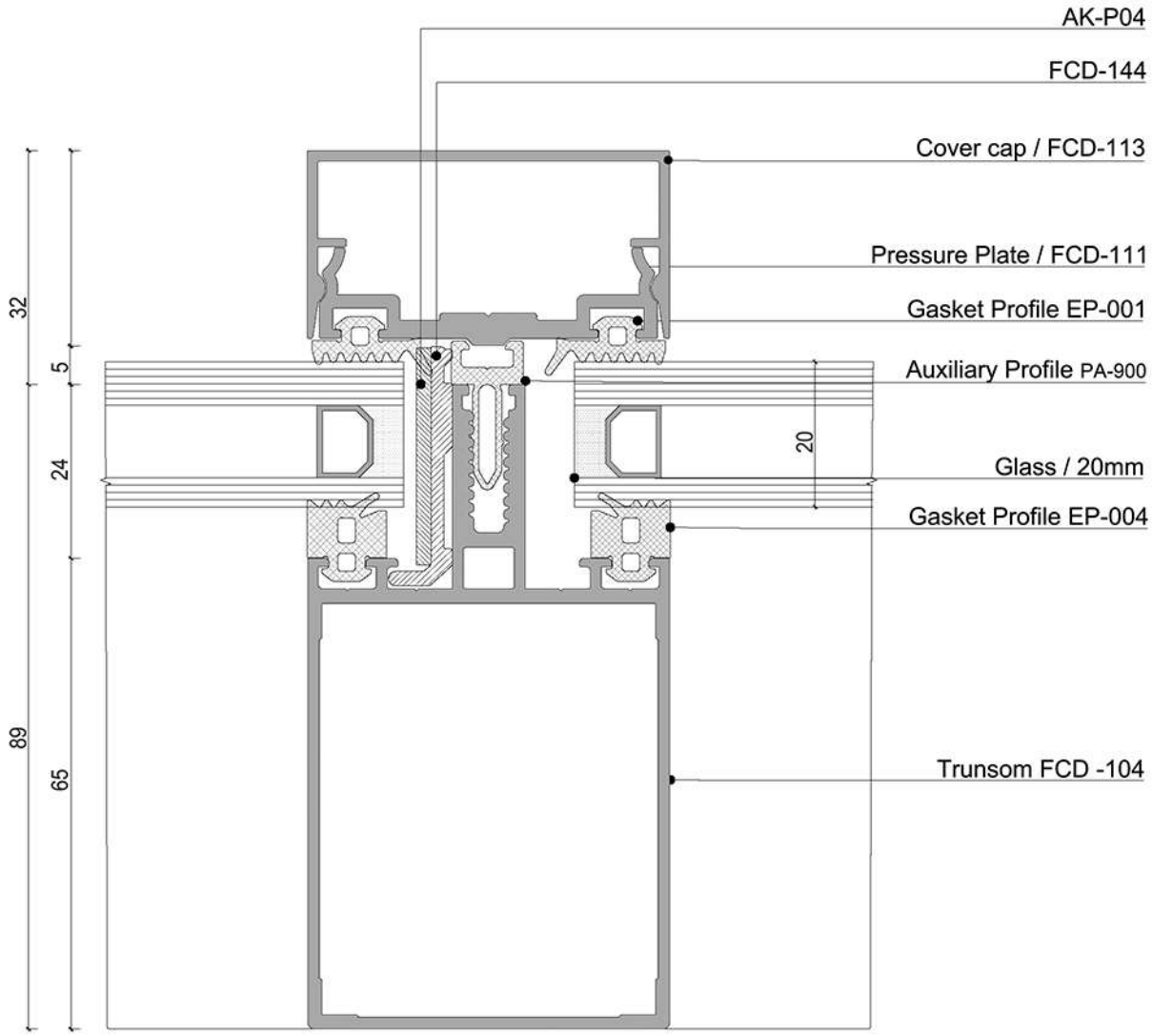


Face cap, SG and Frameless Systems

Fabrication Detailes

Horizontal Section

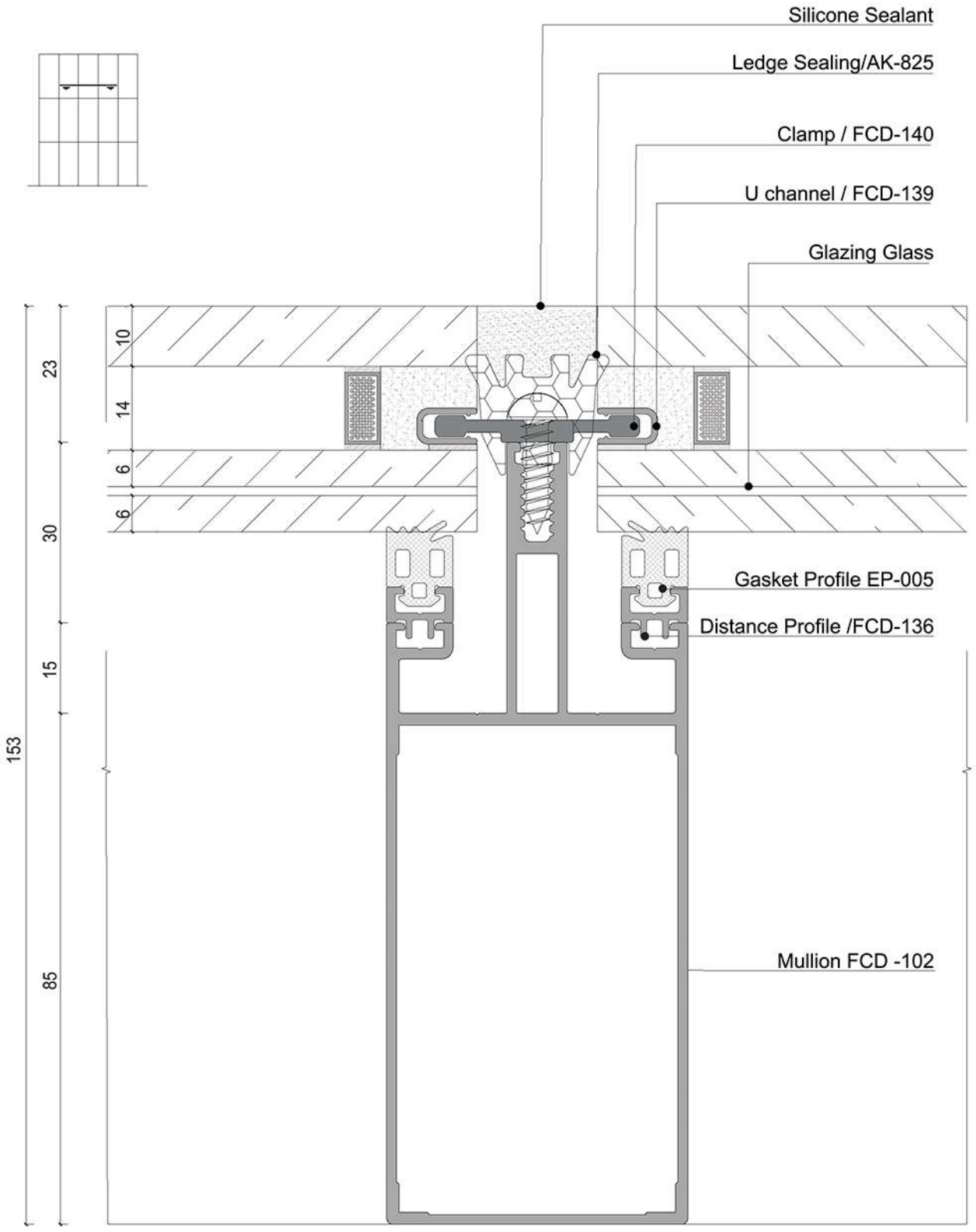




Face cap, SG and Frameless Systems

Fabrication Detailes

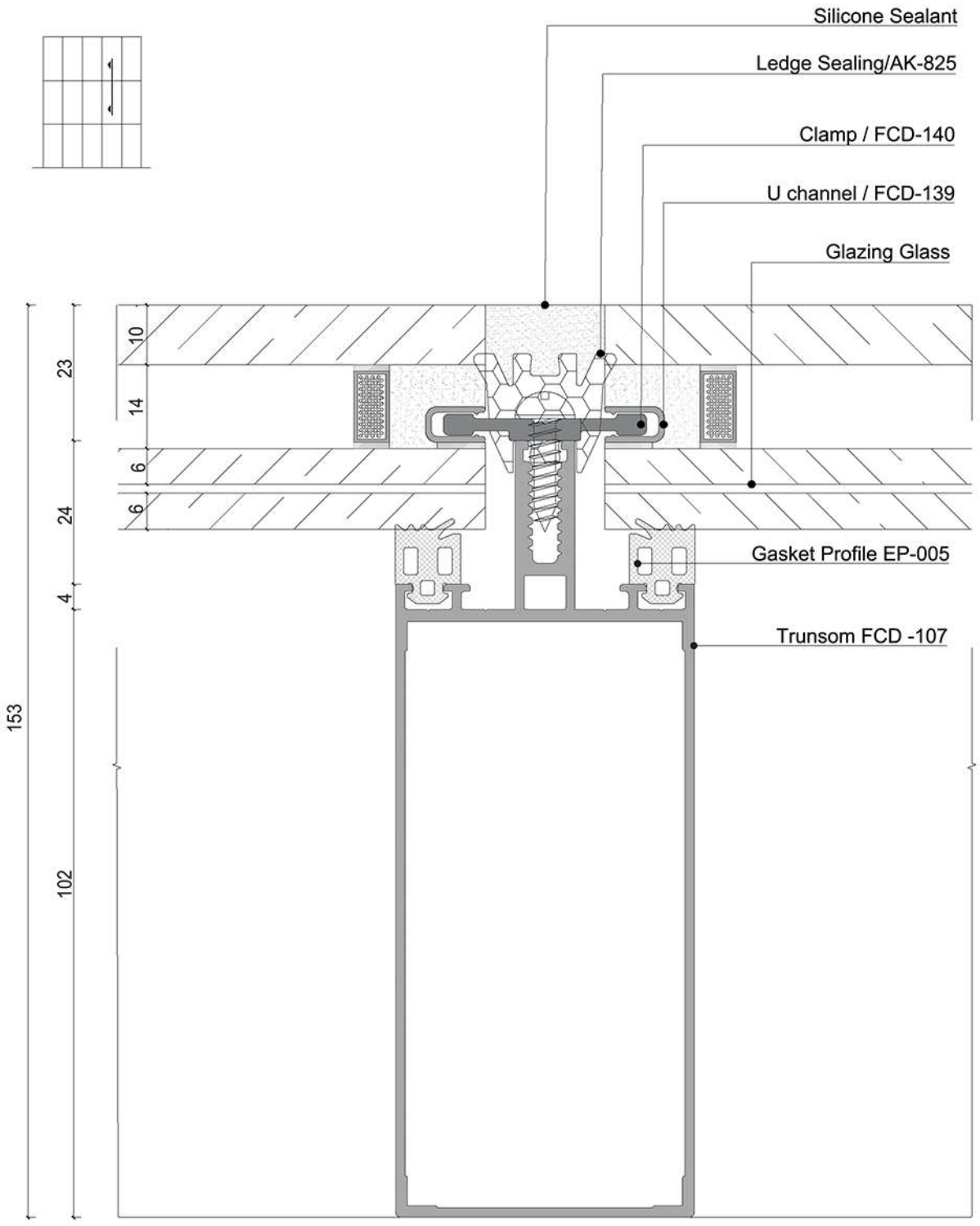
Vertical Section



Face cap, SG and Frameless Systems

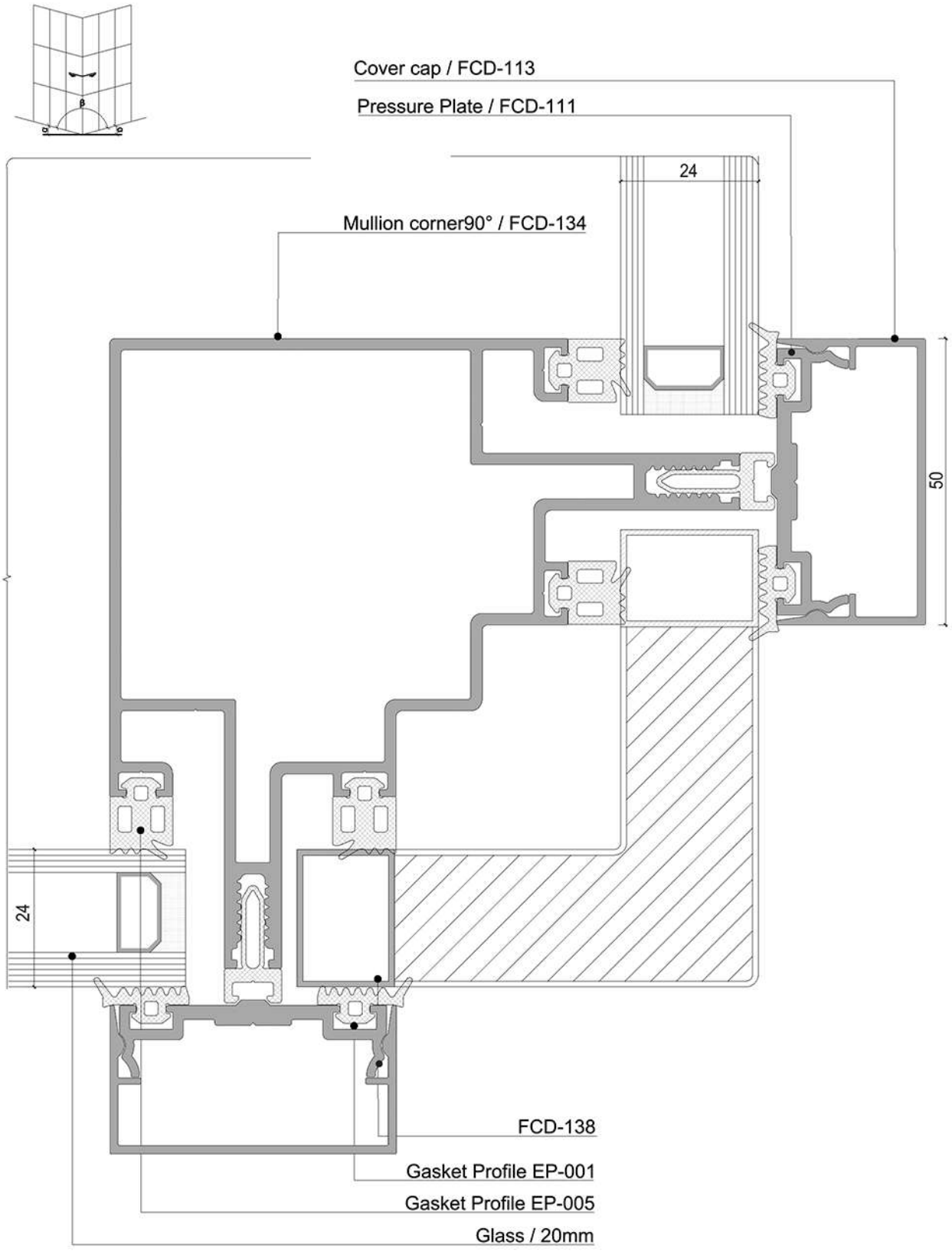
Fabrication Detailes

Horizontal Section



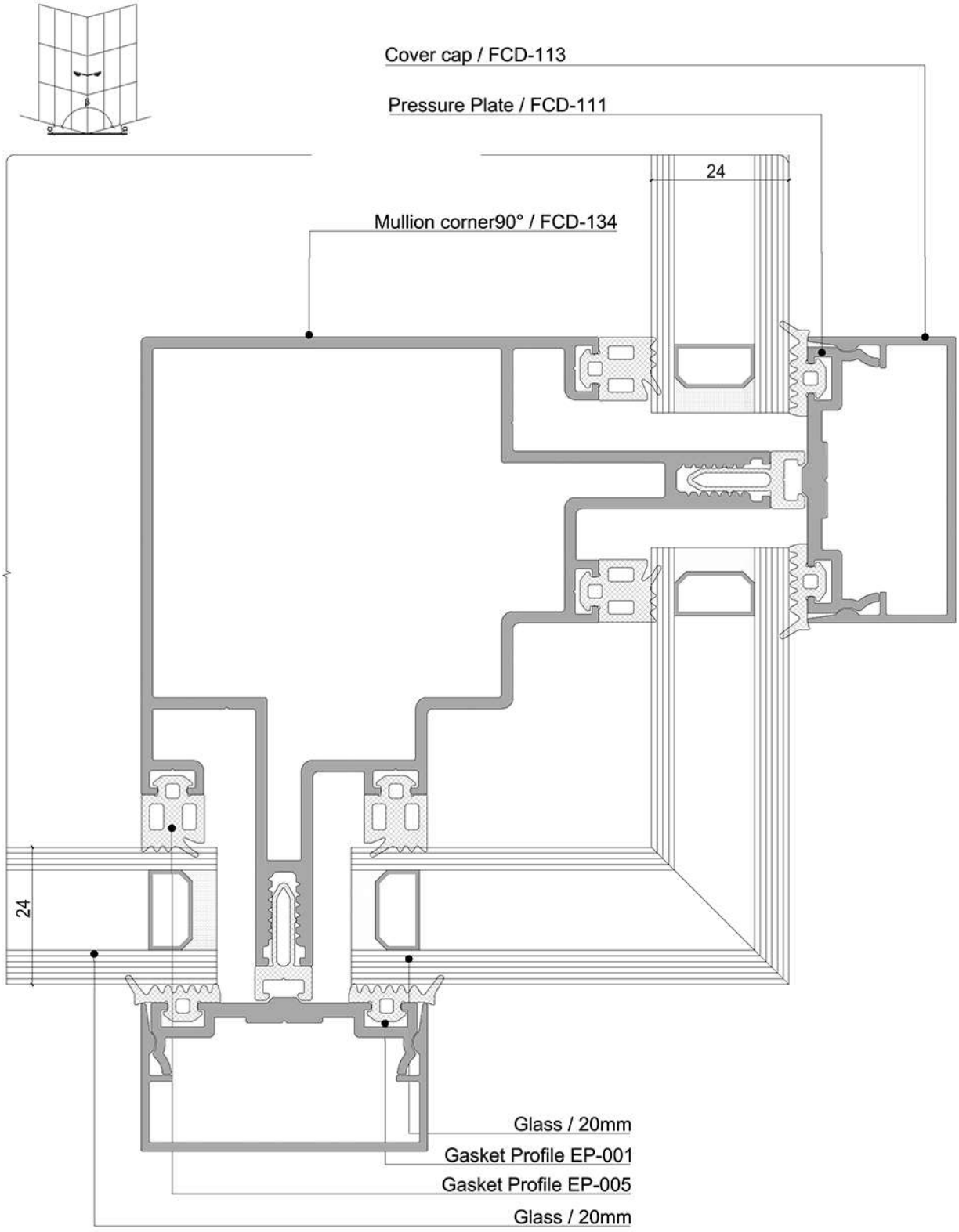
Face cap, SG and Frameless Systems

Fabrication Detailes



Face cap, SG and Frameless Systems

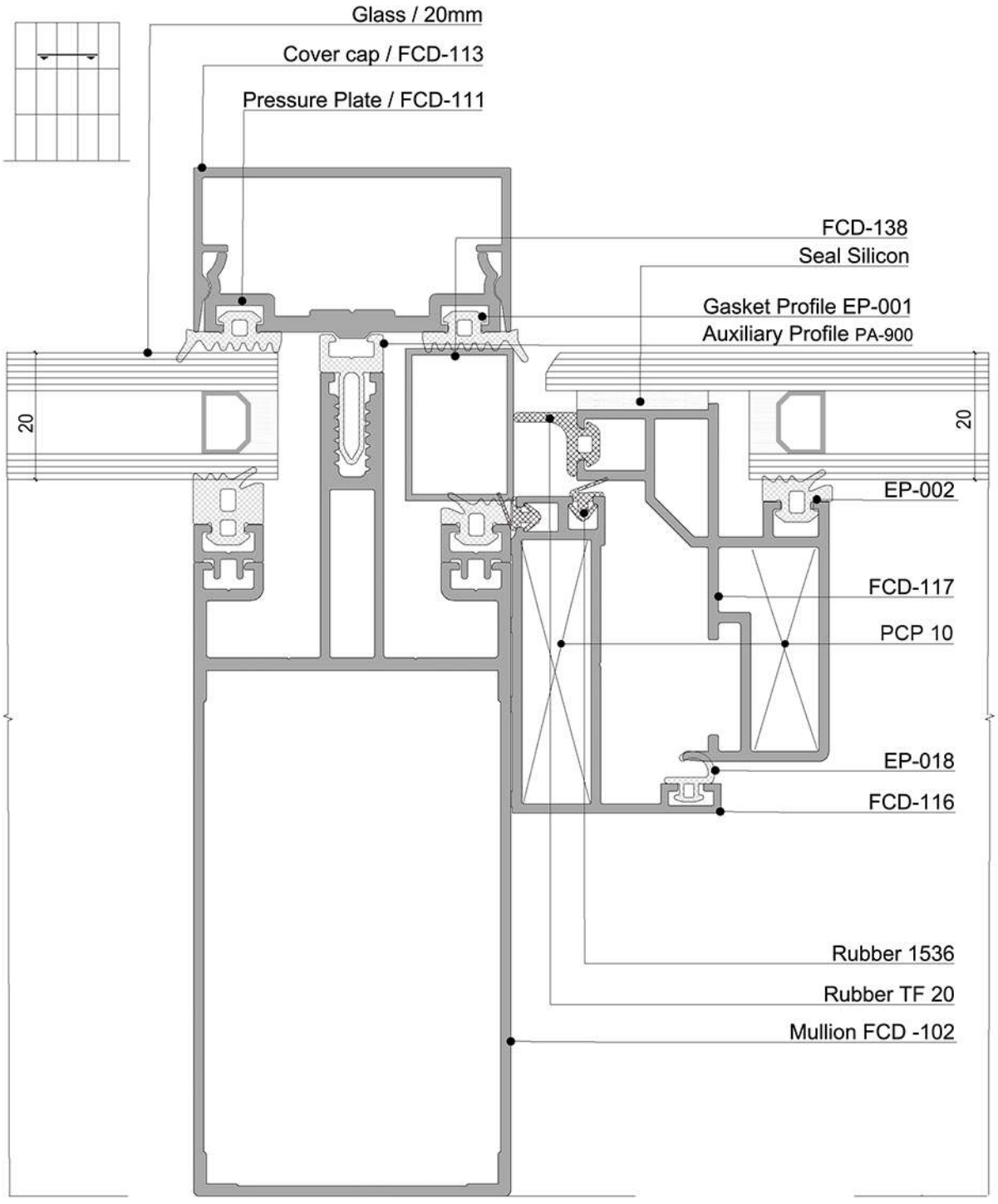
Fabrication Detailes



Face cap, SG and Frameless Systems

Fabrication Detailes

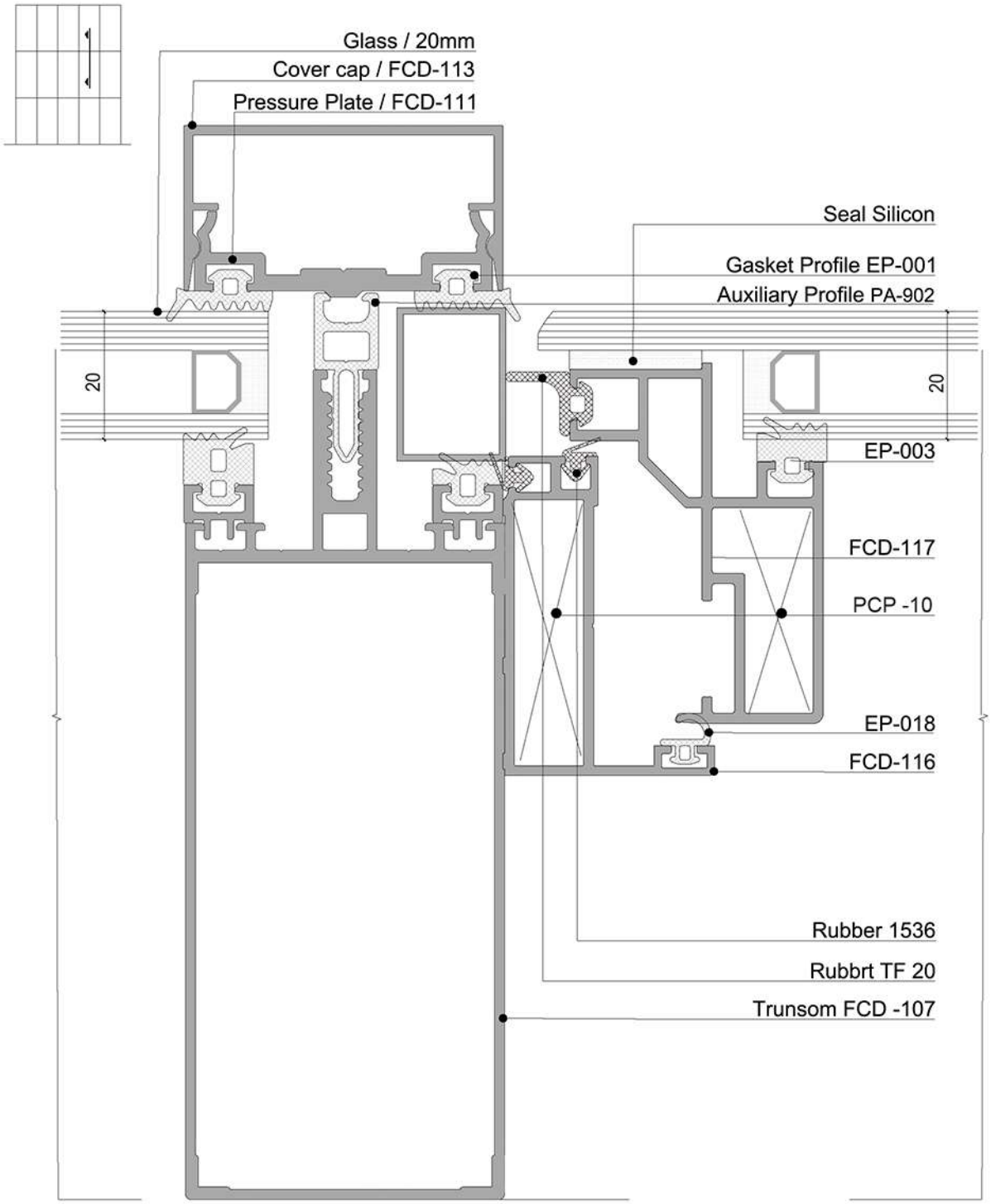
Vertical Section
Oppening System



Face cap, SG and Frameless Systems

Fabrication Detailes

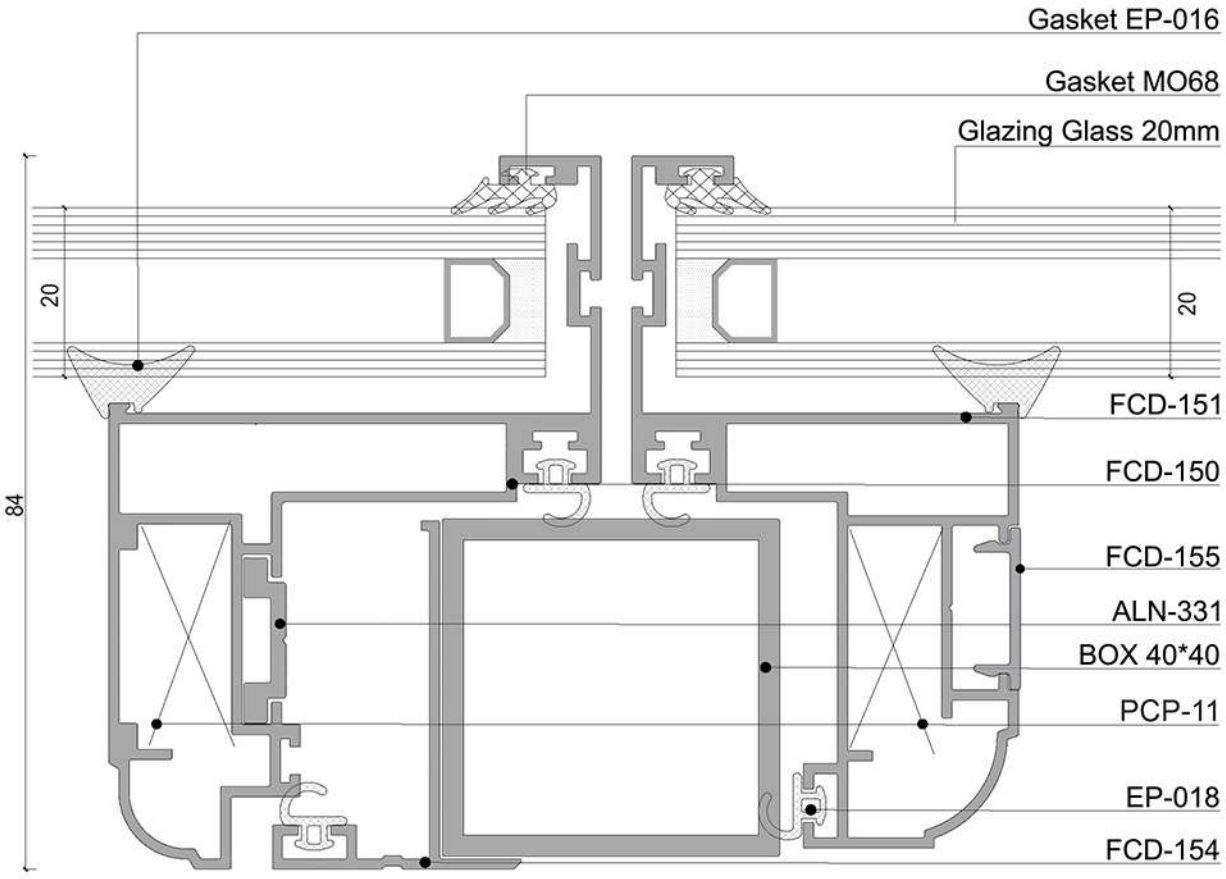
Horizontal Section
Oppening System



Face cap, SG and Frameless System

Fabrication Detailes

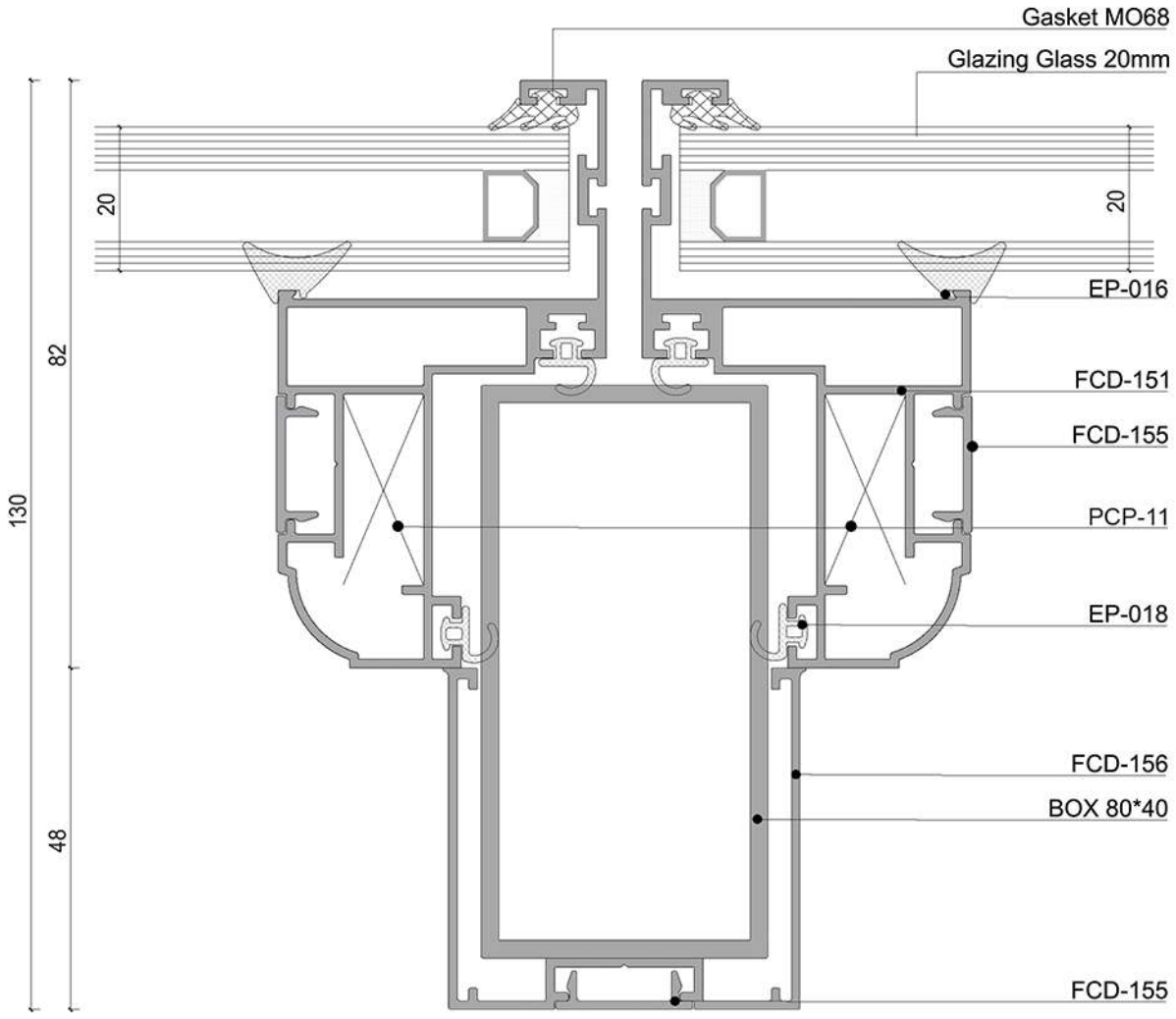
Oppening Section



Face cap, SG and Frameless System

Fabrication Detailes

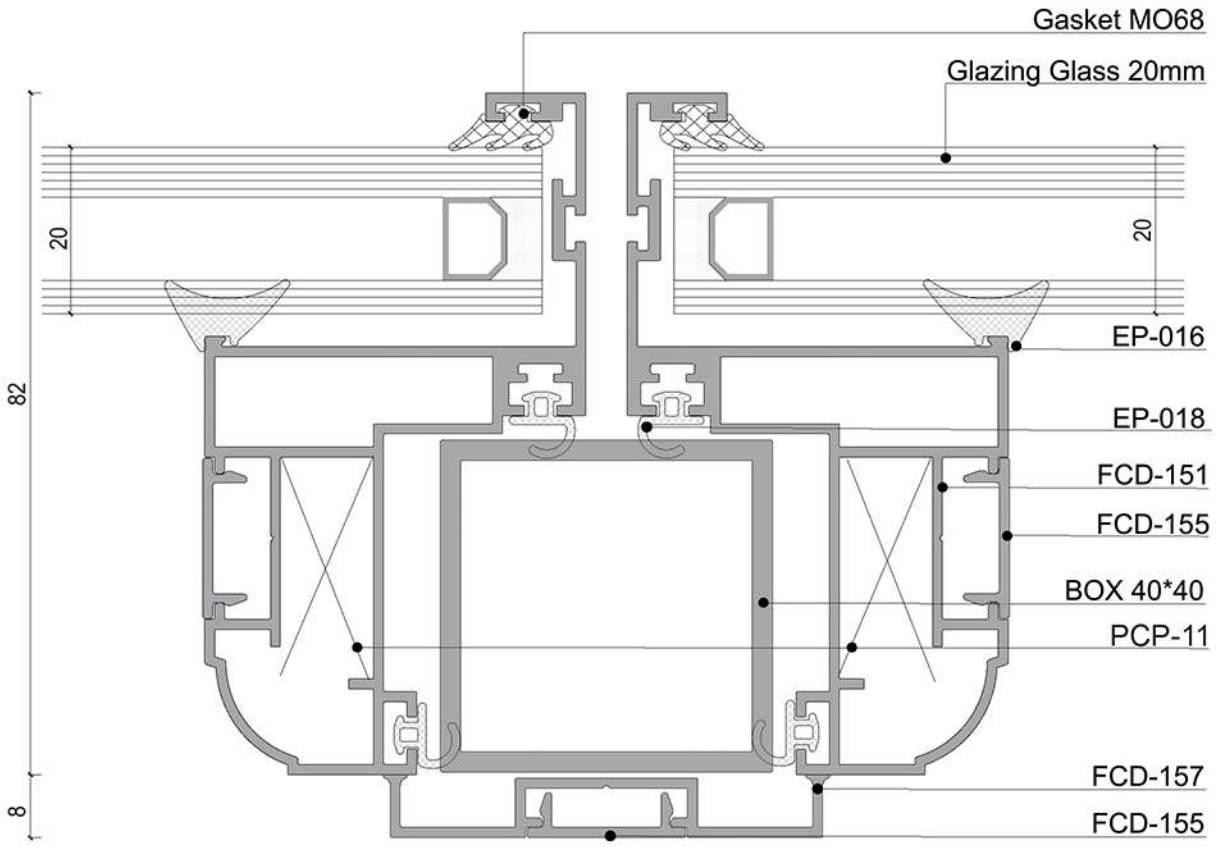
Fixed Section



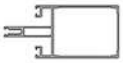
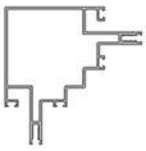
Face cap, SG and Frameless System

Fabrication Detailes

Fixed Section



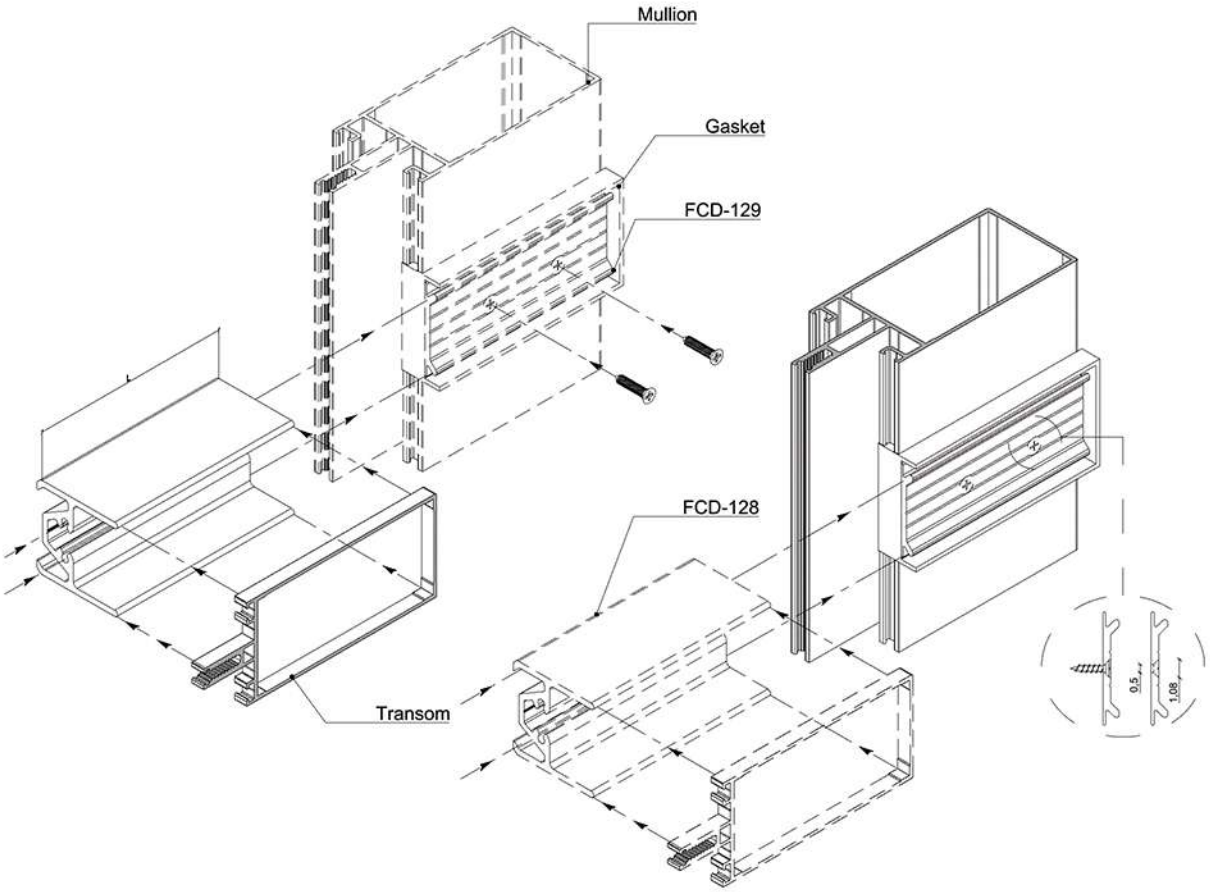
Face cap, SG and Frameless System

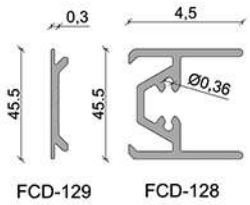
Mullion and Expansion Joint Profile			
IMAGES	DESCRIPTION Mullion	IMAGES	DESCRIPTION Expansion Joint Profile
	FCD-100		FCD-121
	FCD-101		FCD-122
	FCD-102		FCD-123
	FCD-103		FCD-124
	FCD-134		FCD-126

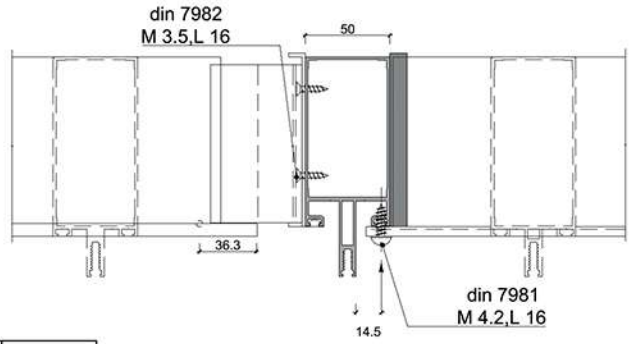
Face cap, SG and Frameless System

Assembly Drawing

Mullion and Transom jointing elements, Type C1





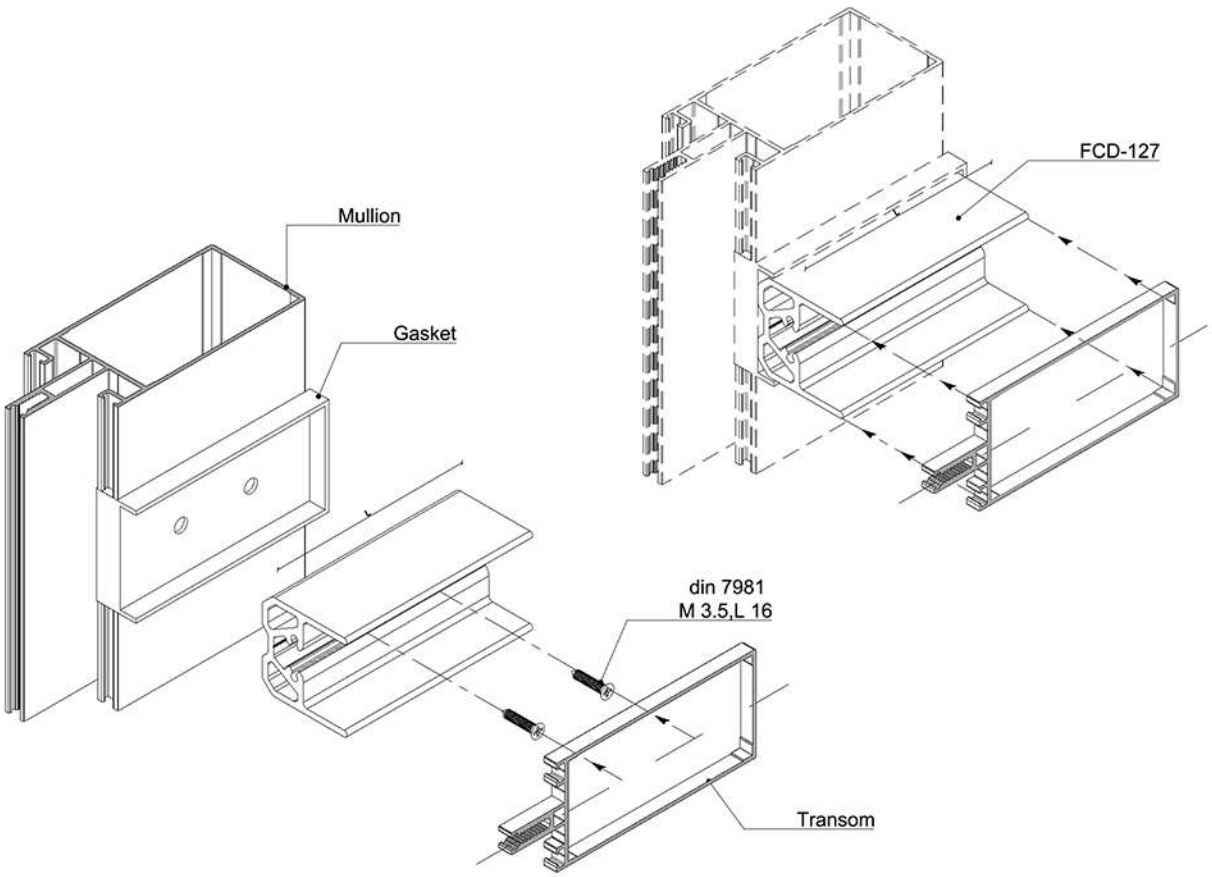


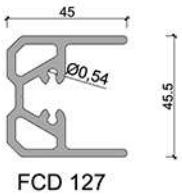
Transom	FCD-104	FCD-105	FCD-106	FCD-107	FCD-108
FCD-129	56.8	41.8	122.8	97.8	71.8
FCD-128	56.8	41.8	122.8	97.8	71.8

Face cap, SG and Frameless System

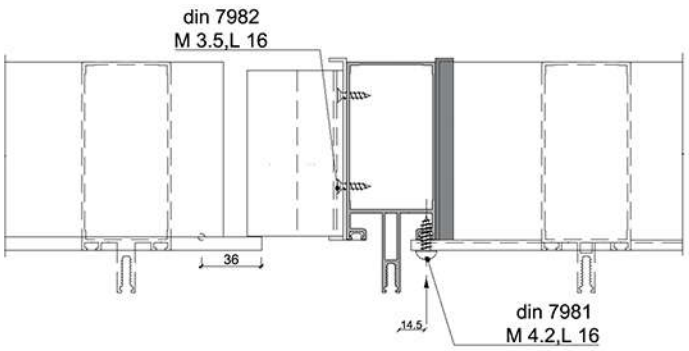
Assembly Drawing

Mullion and Transom jointing elements, Type C2





FCD 127

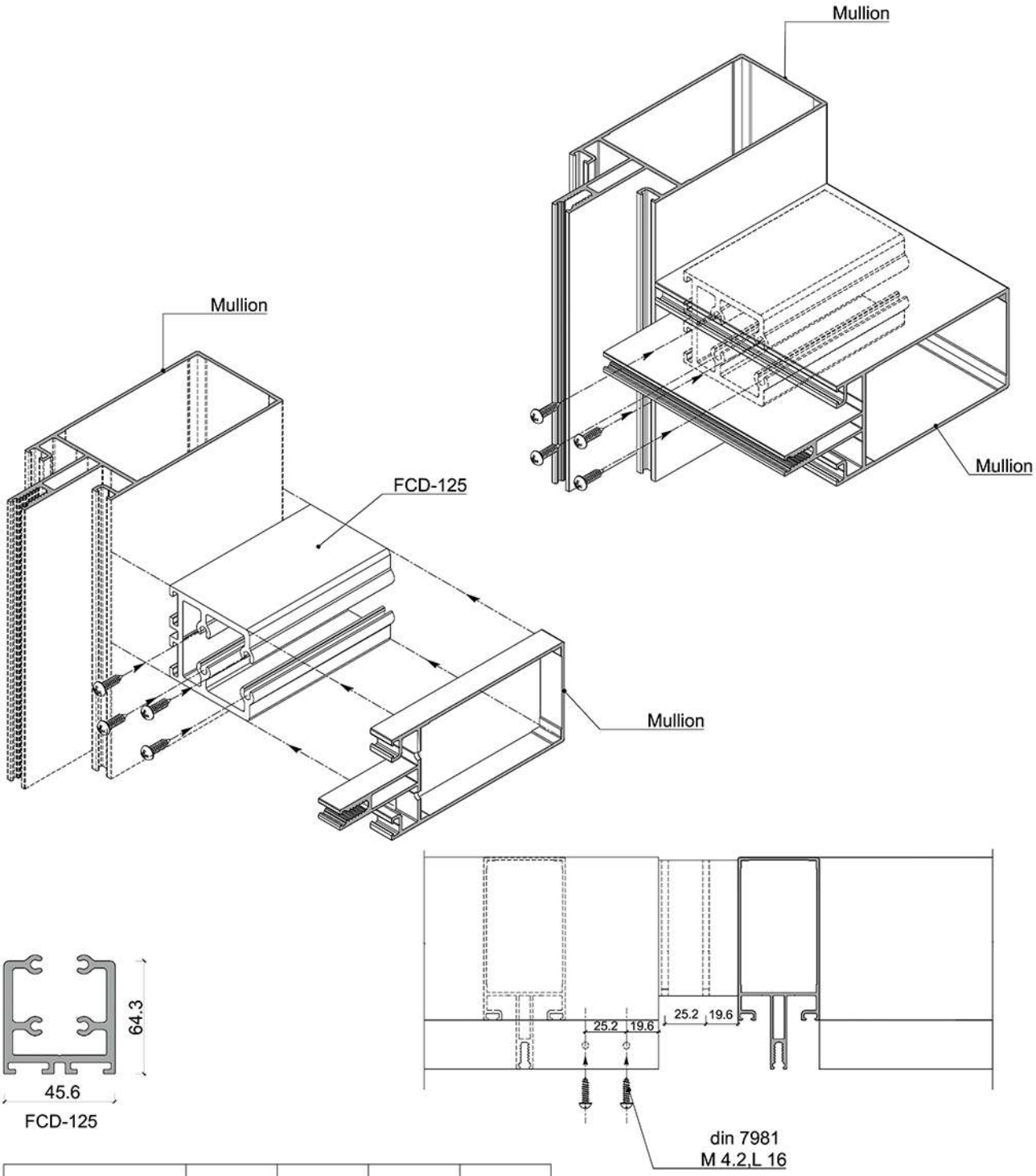


Transom	FCD-104	FCD-105	FCD-106	FCD-107	FCD-108
FCD-127	56.8	41.8	122.8	97.8	71.8

Face cap, SG and Frameless System

Assembly Drawing

Mullion and Transom jointing elements, Type C3

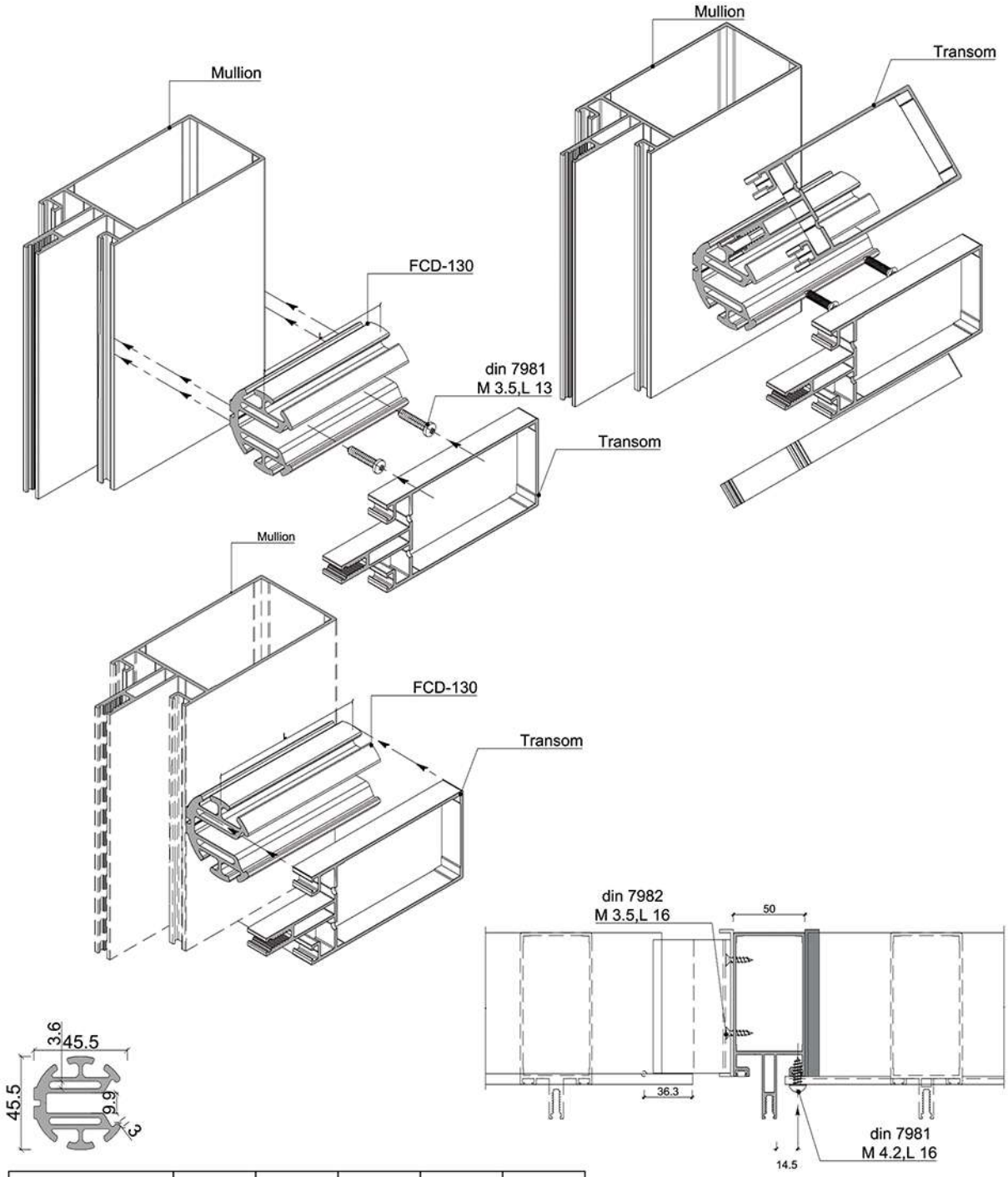


Mullion	FCD-100	FCD-101	FCD-102	FCD-103
FCD-125	116	101	81	61

Face cap, SG and Frameless System

Assembly Drawing

Mullion and transom jointing elements, angular type

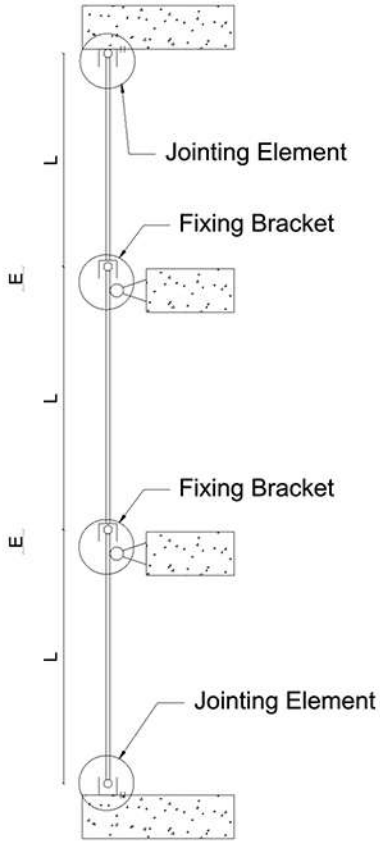


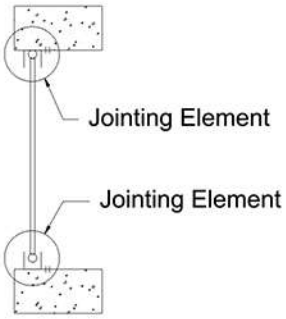
Transom	FCD-104	FCD-105	FCD-106	FCD-107	FCD-108
FCD-130	56.8	41.8	122.8	97.8	71.8

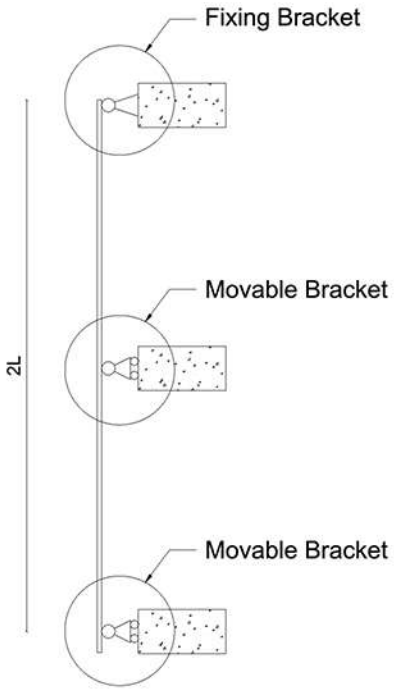
Face cap, SG and Frameless System

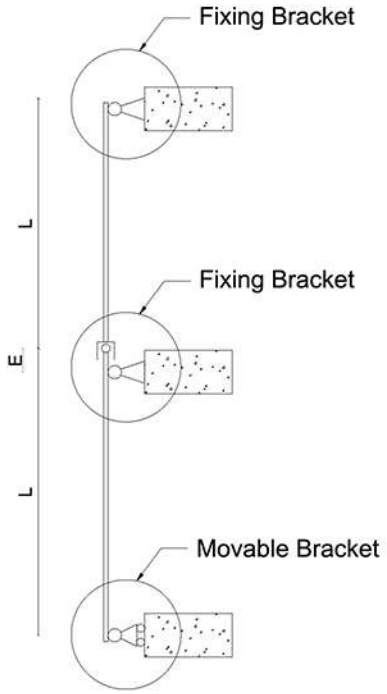
Assembly Drawing

Definition of Support





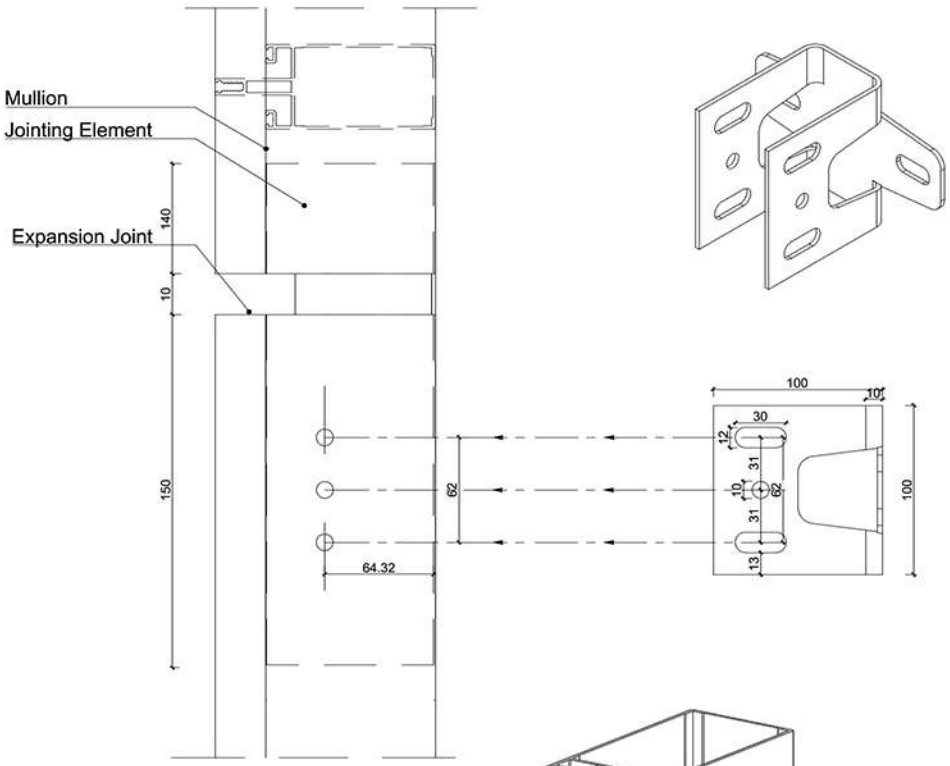


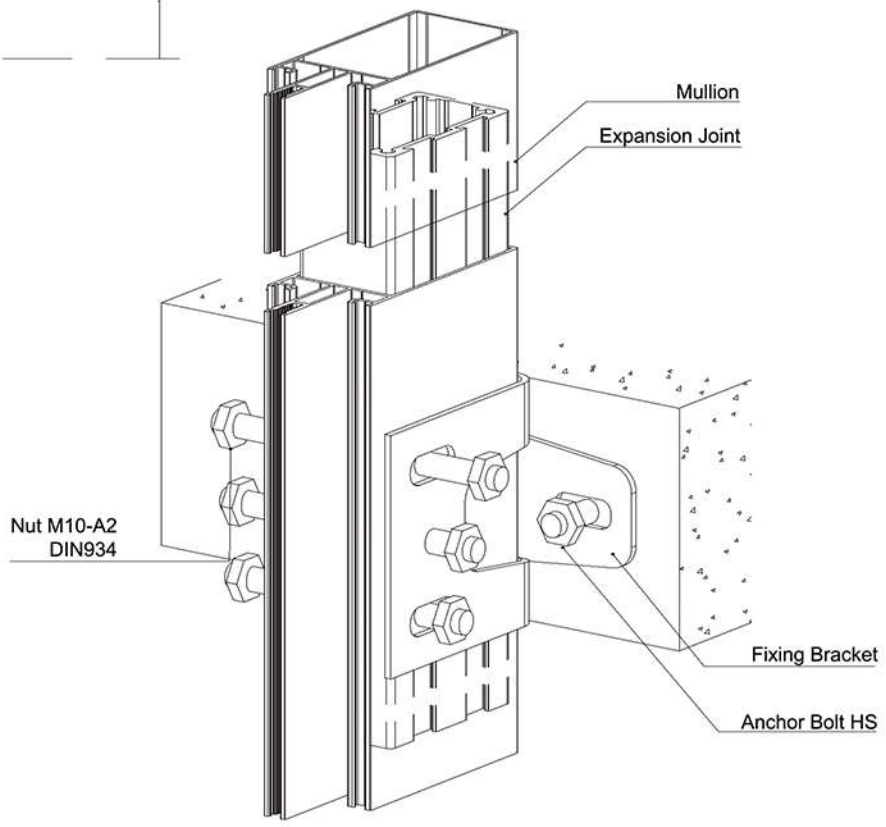


Face cap, SG and Frameless System

Assembly Drawing

Bracket and Mullion Jointing Element

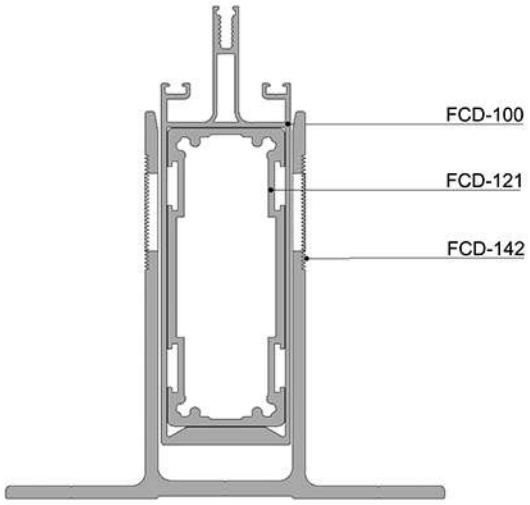


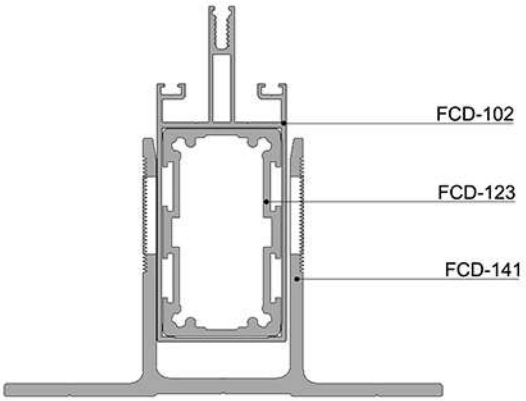


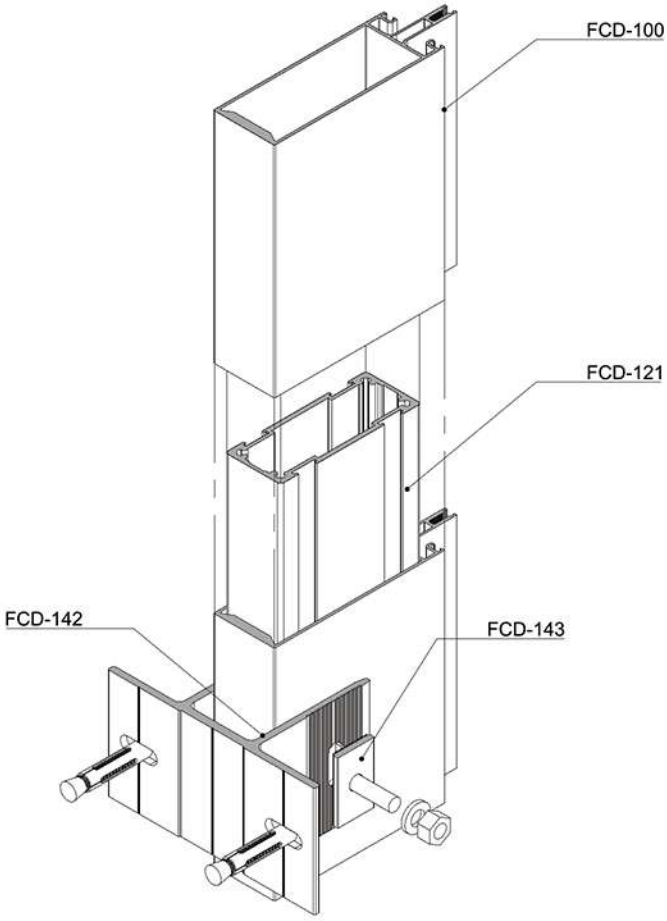
Face cap, SG and Frameless System

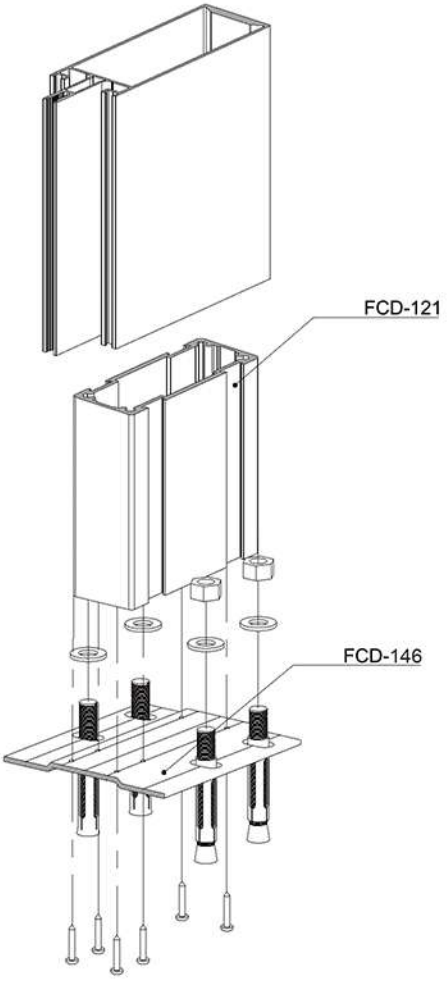
Assembly Drawing

Bracket and Mullion Jointing Element









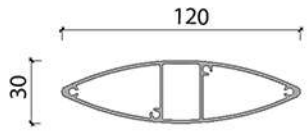
Sun Shading

Louver System

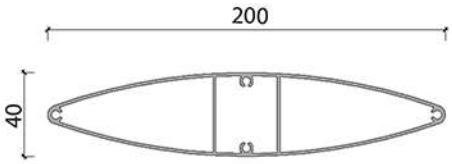


Louver System

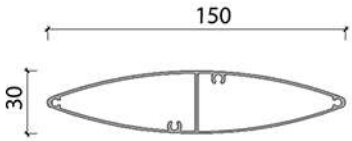
Profile & Accessories Information



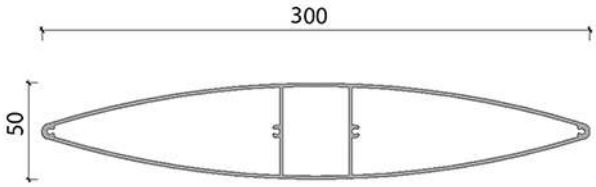
Profile : ALS-100	Weight : 1338 gr/m



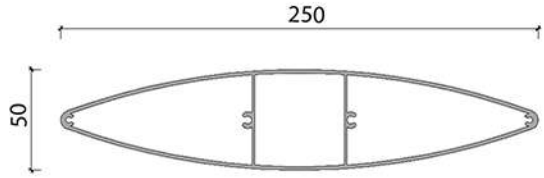
Profile : ALS-102	Weight : 2117 gr/m



Profile: ALS-101	Weight : 1226 gr/m



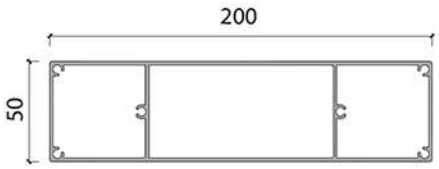
Profile : ALS-103	Weight : 3031 gr/m



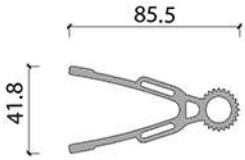
Profile : ALS-104	Weight : 3570 gr/m

Louver System

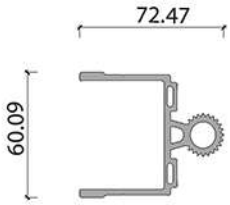
Profile & Accessories Information



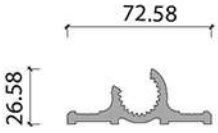
Profile : ALS-105	Weight : 2868 gr/m



Profile : ALS-111	Weight : 1859 gr/m



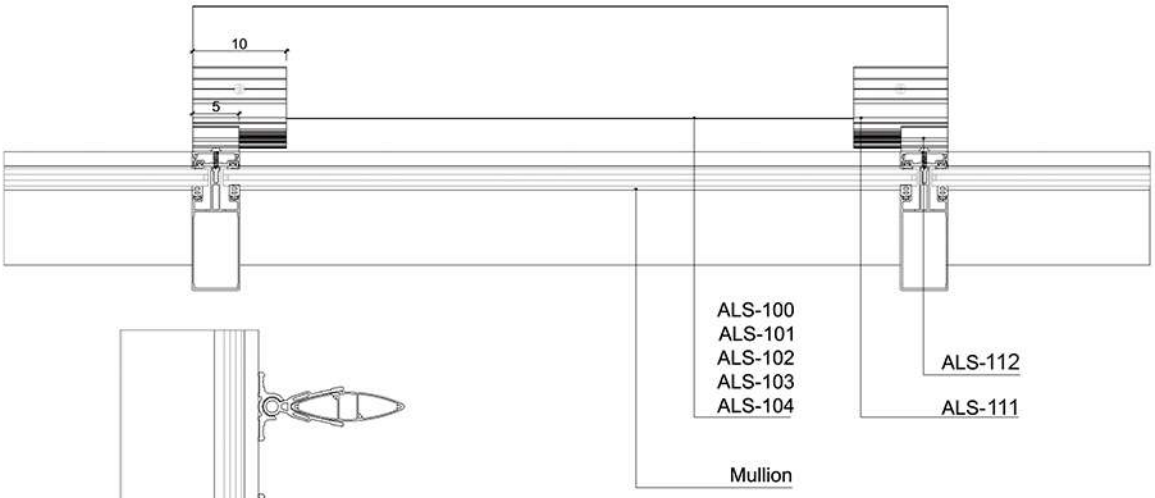
Profile : ALS-113	Weight : 1902 gr/m

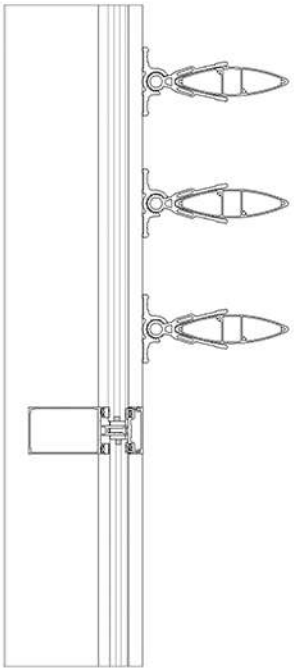


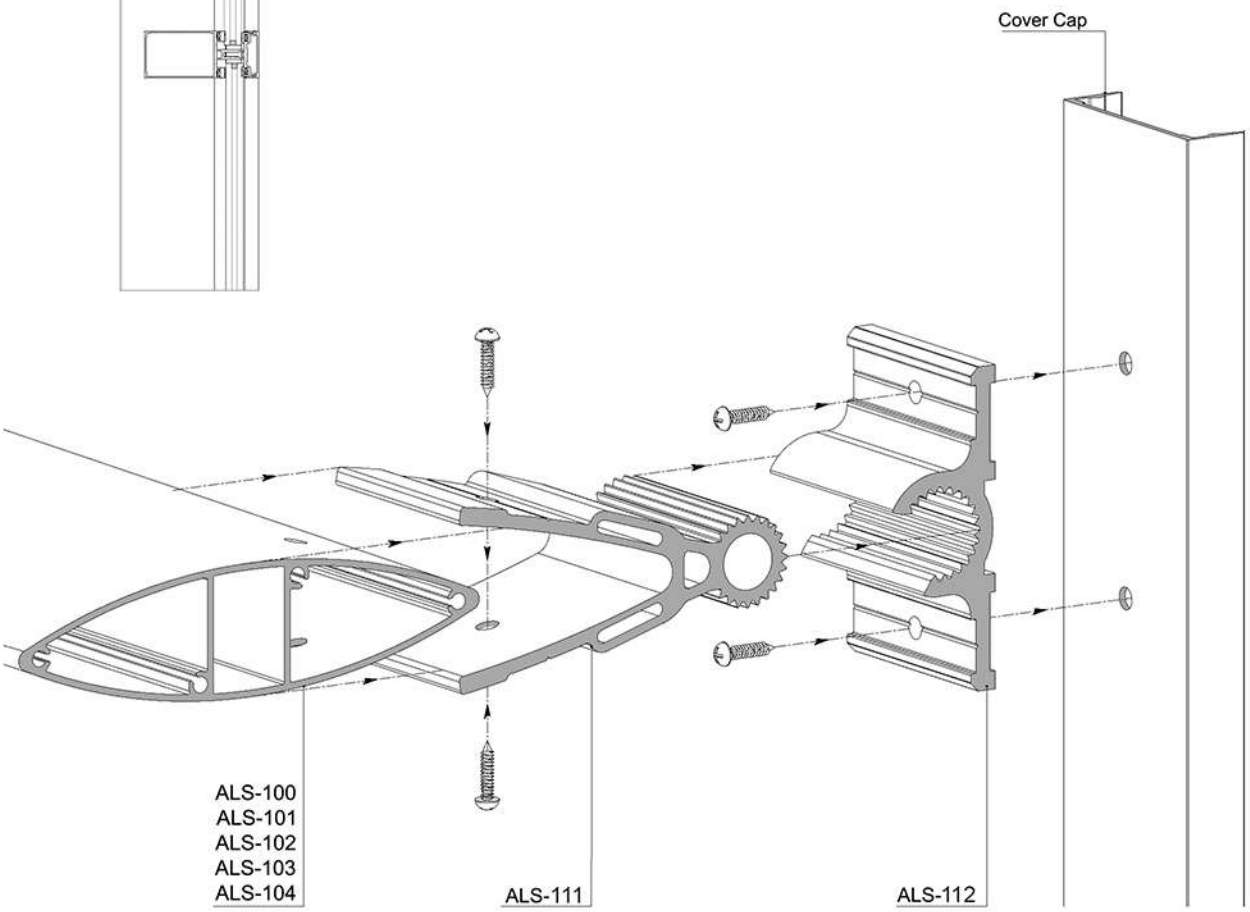
Profile : ALS-112	Weight : 1295 gr/m

Louver System

Assembly Drawing

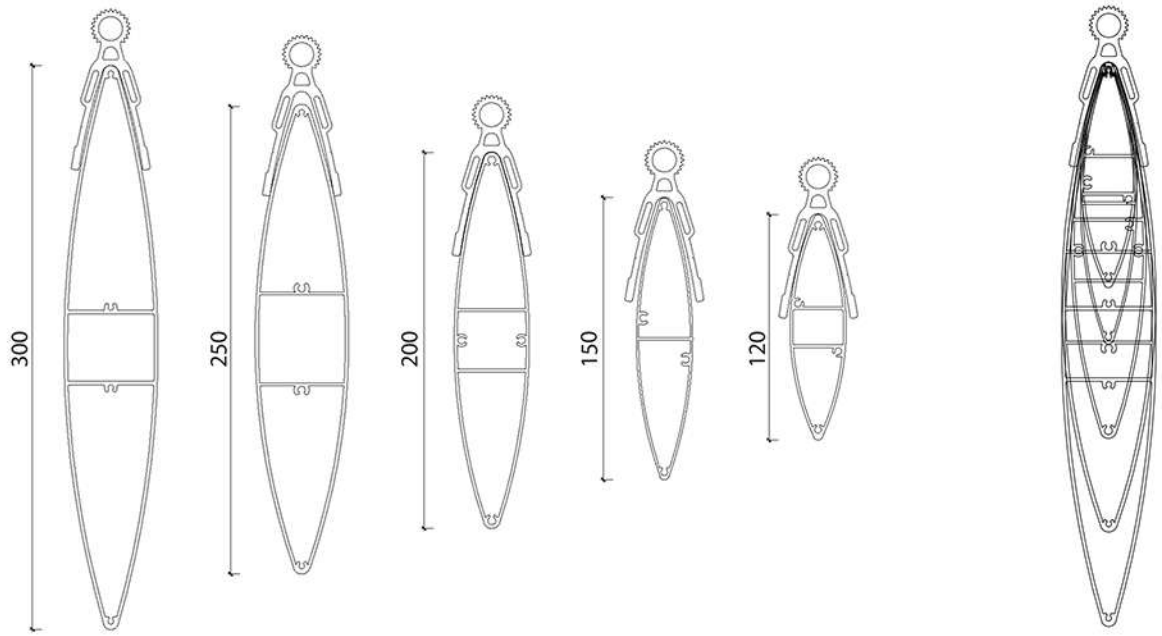


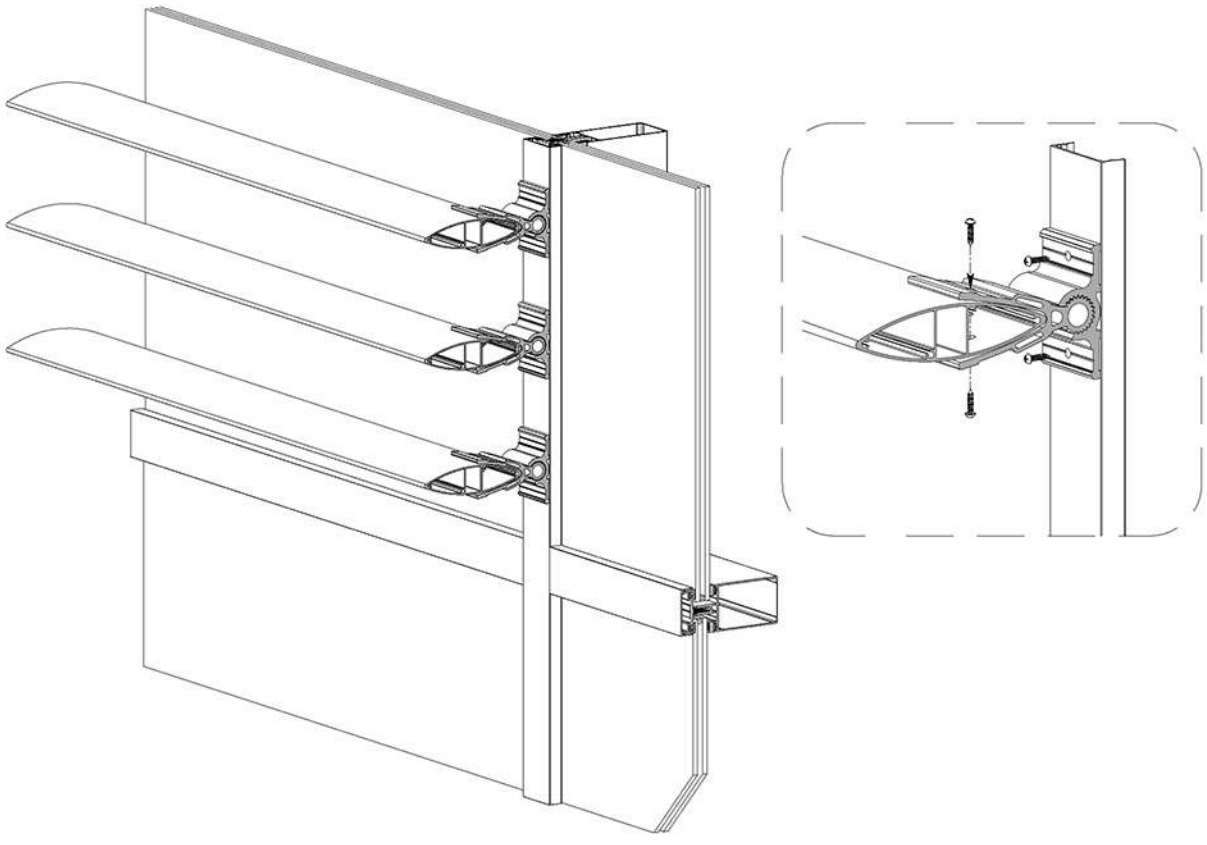




Louver System

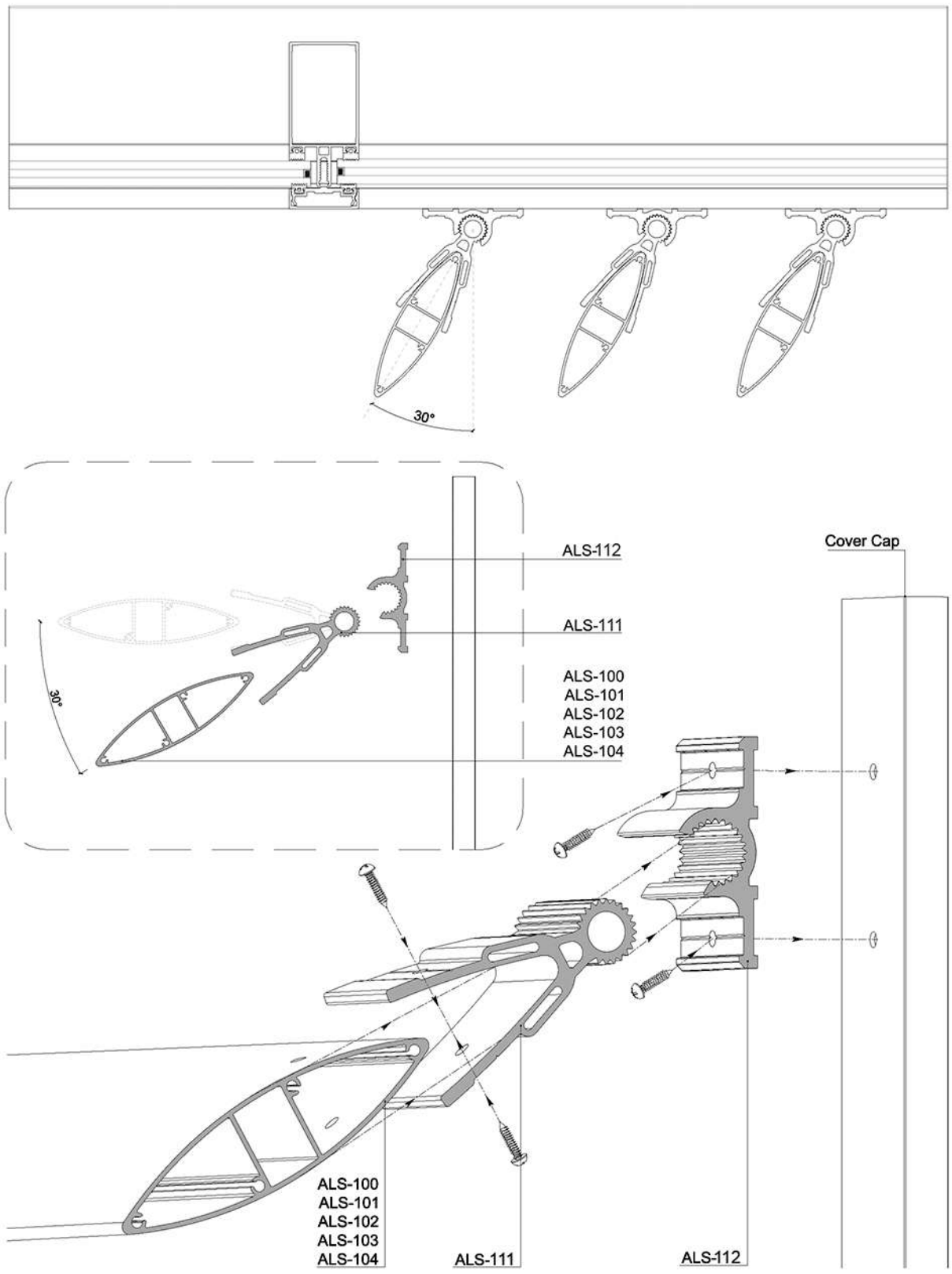
Assembly Drawing





Louver System

Assembly Drawing



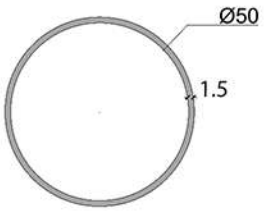
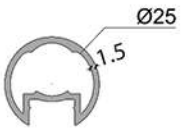
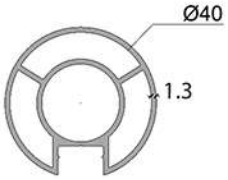
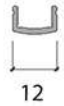
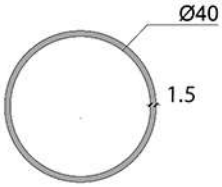
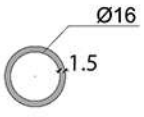
Balustrade System

Handrail & Glass Supporting System



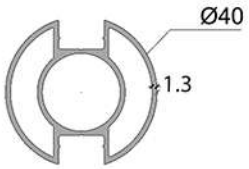
Handrail & Glass supporting System

Profile & Accessories Information

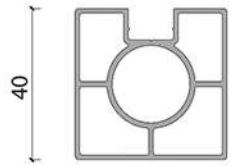
			
Profile : BLS-100	Weight : 618 gr/m	Profile : BLS-103	Weight : 370 gr/m
			
Profile : BLS-101	Weight : 745 gr/m	Profile : BLS-104	Weight : 81 gr/m
			
Profile : BLS-102	Weight : 489 gr/m	Profile : BLS-105	Weight : 184 gr/m

Handrail & Glass supporting System

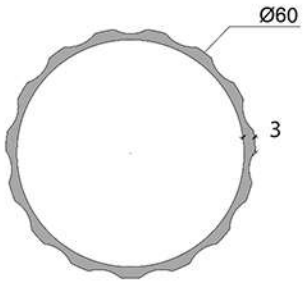
Profile & Accessories Information



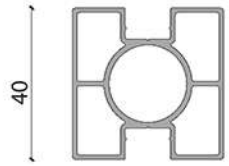
Profile : BLS-106	Weight : 721 gr/m



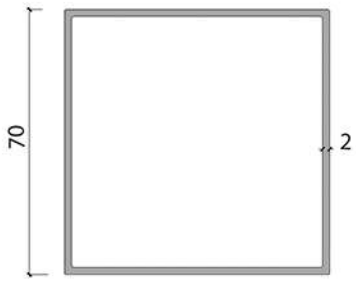
Profile : BLS-122	Weight : 872 gr/m



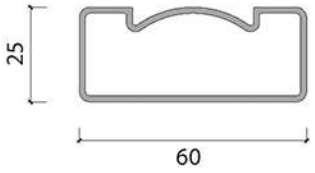
Profile : BLS-107	Weight : 1277 gr/m



Profile : BLS-123	Weight : 880 gr/m



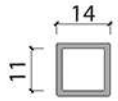
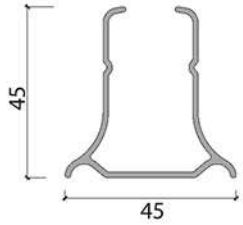
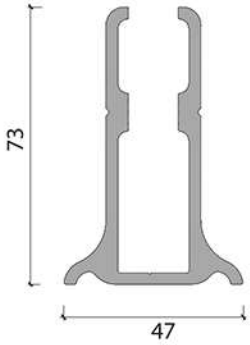
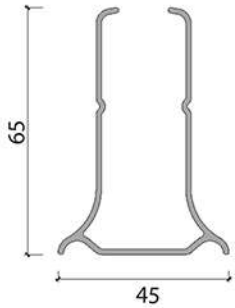
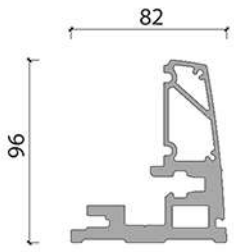
Profile : BLS-121	Weight : 1469 gr/m



Profile : BLS-124	Weight : 737 gr/m

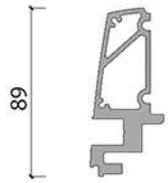
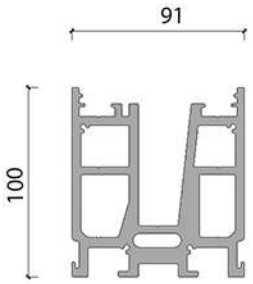
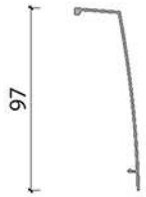
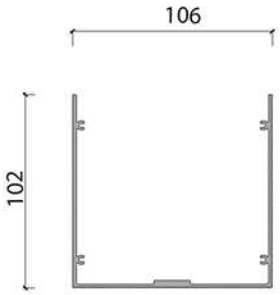
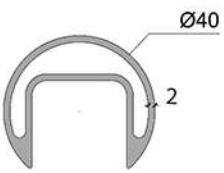
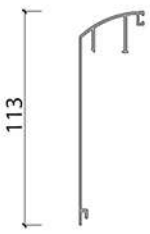
Handrail & Glass supporting System

Profile & Accessories Information

			
Profile : BLS-125	Weight : 192 gr/m	Profile : BLS-132	Weight : 551 gr/m
			
Profile : BLS-126	Weight : 84 gr/m	Profile : BLS-133	Weight : 192 gr/m
			
Profile : BLS-131	Weight : 702 gr/m	Profile : BLS-135	Weight : 4841 gr/m

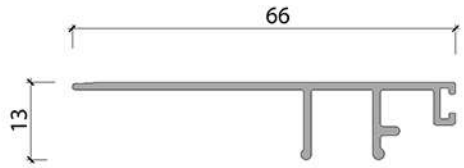
Handrail & Glass supporting System

Profile & Accessories Information

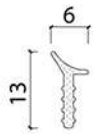
			
Profile : BLS-136	Weight : 2595 gr/m	Profile : BLS-140	Weight : 8294 gr/m
			
Profile : BLS-137	Weight : 419 gr/m	Profile : BLS-141	Weight : 1796 gr/m
			
Profile : BLS-138	Weight : 767 gr/m	Profile : BLS-142	Weight : 610 gr/m

Handrail & Glass supporting System

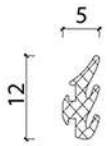
Profile & Accessories Information



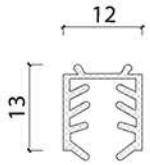
Profile : BLS-143	Weight : 362 gr/m



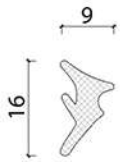
Profile : EP-015	Weight : –



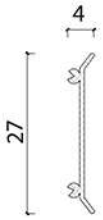
Profile : MO68	Weight : –



Profile : 20742	Weight : –



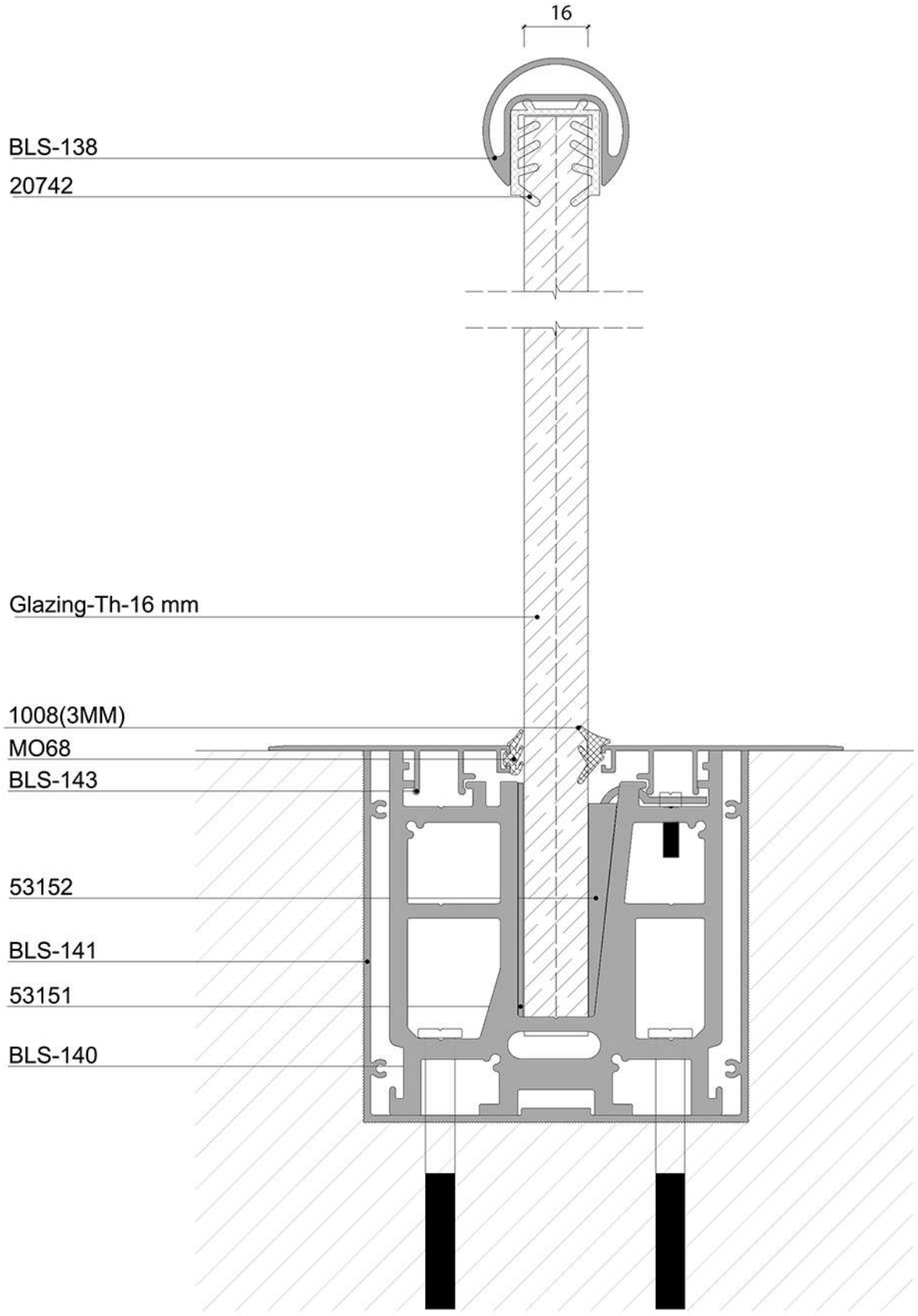
Profile : 1008(3MM)	Weight : –



Profile : 20737	Weight : –

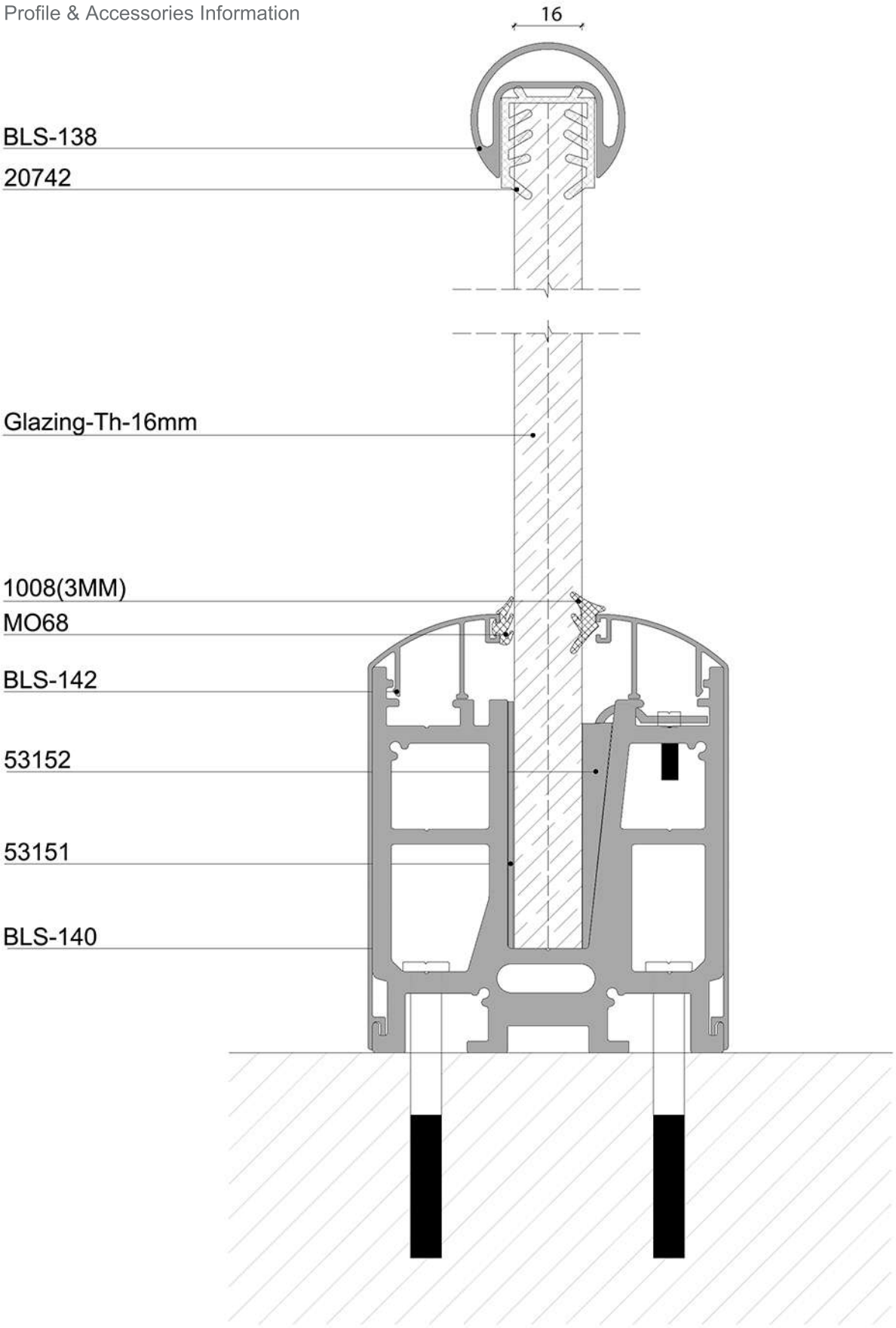
Handrail & Glass supporting System

Profile & Accessories Information



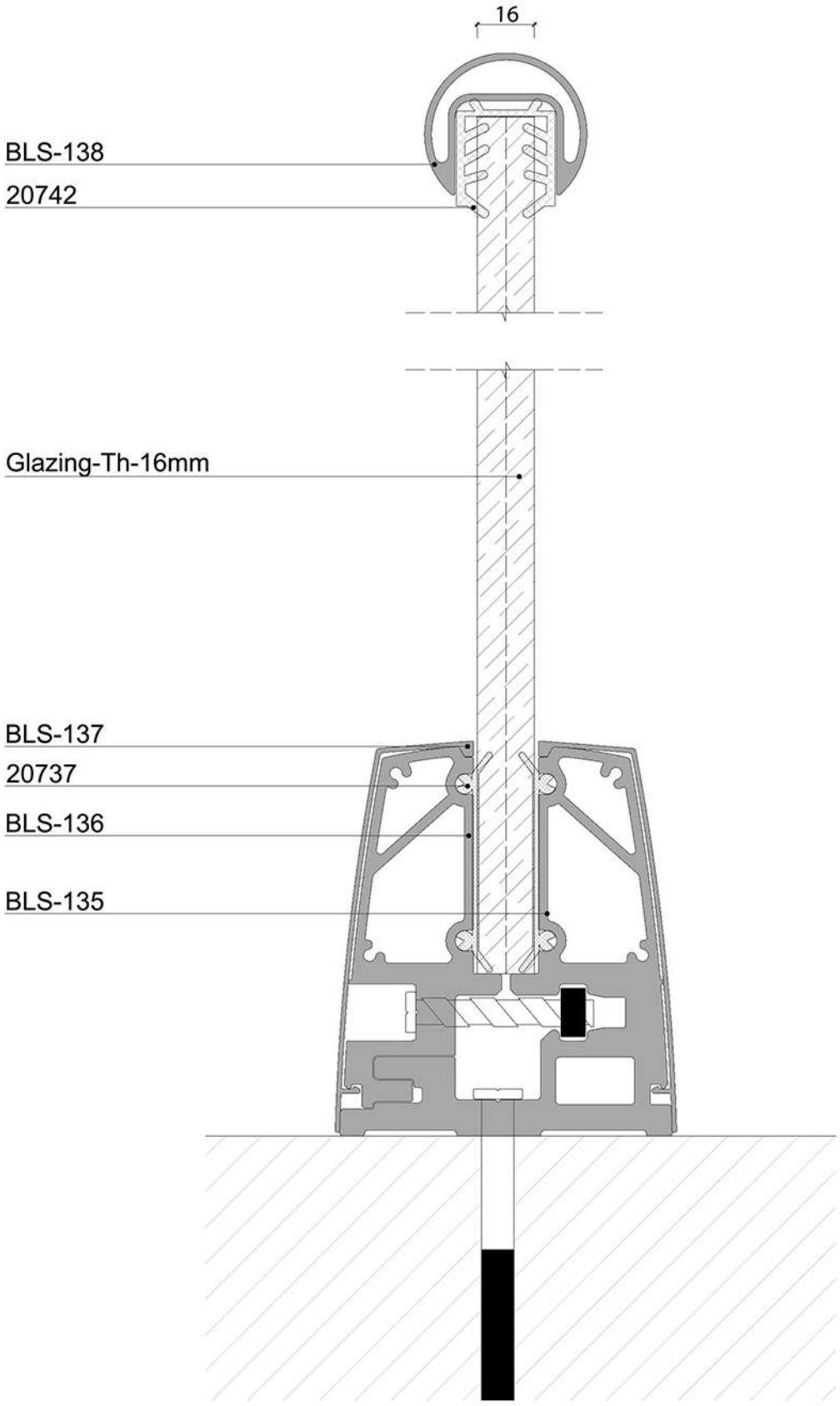
Handrail & Glass supporting System

Profile & Accessories Information



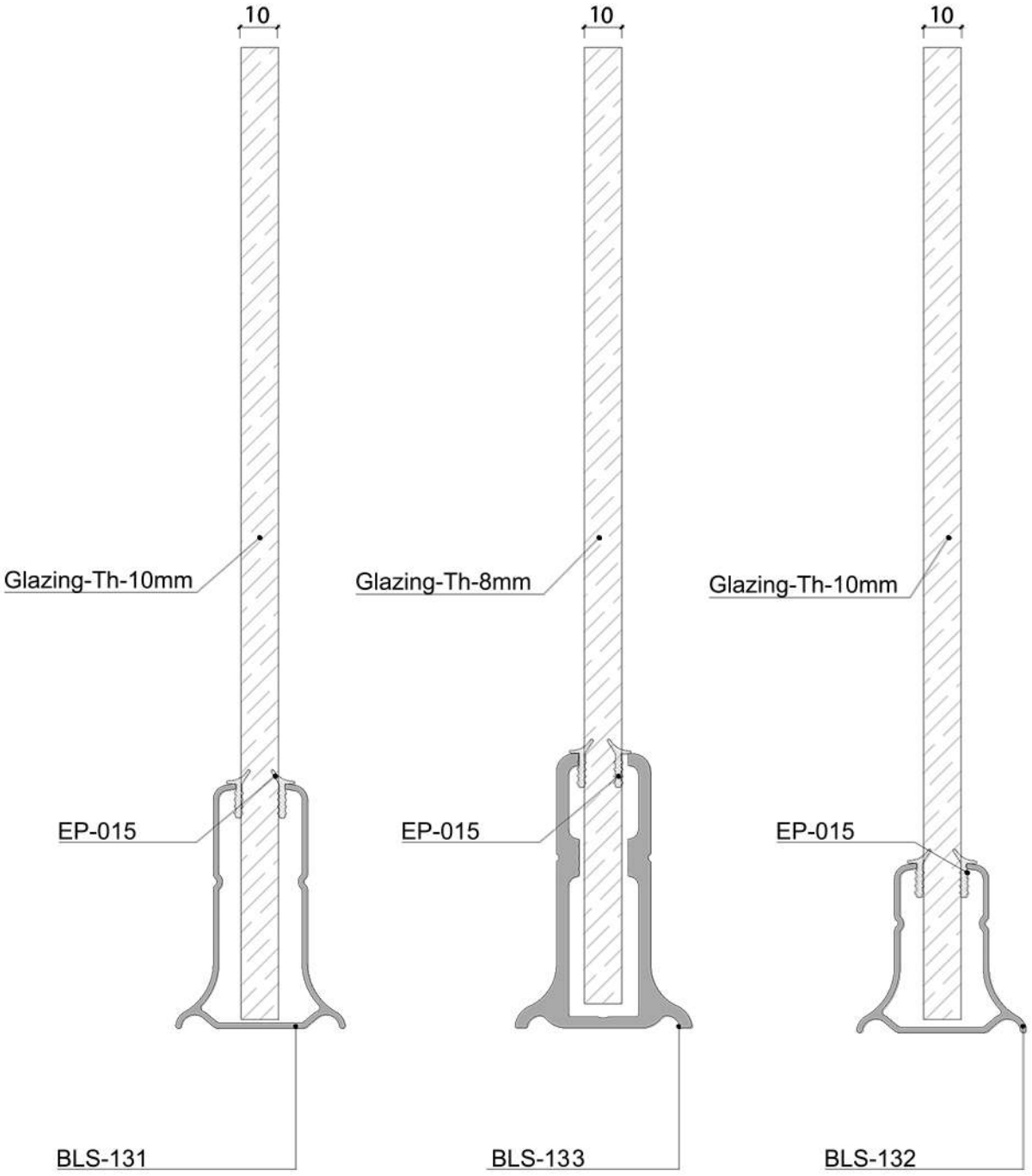
Handrail & Glass supporting System

Profile & Accessories Information



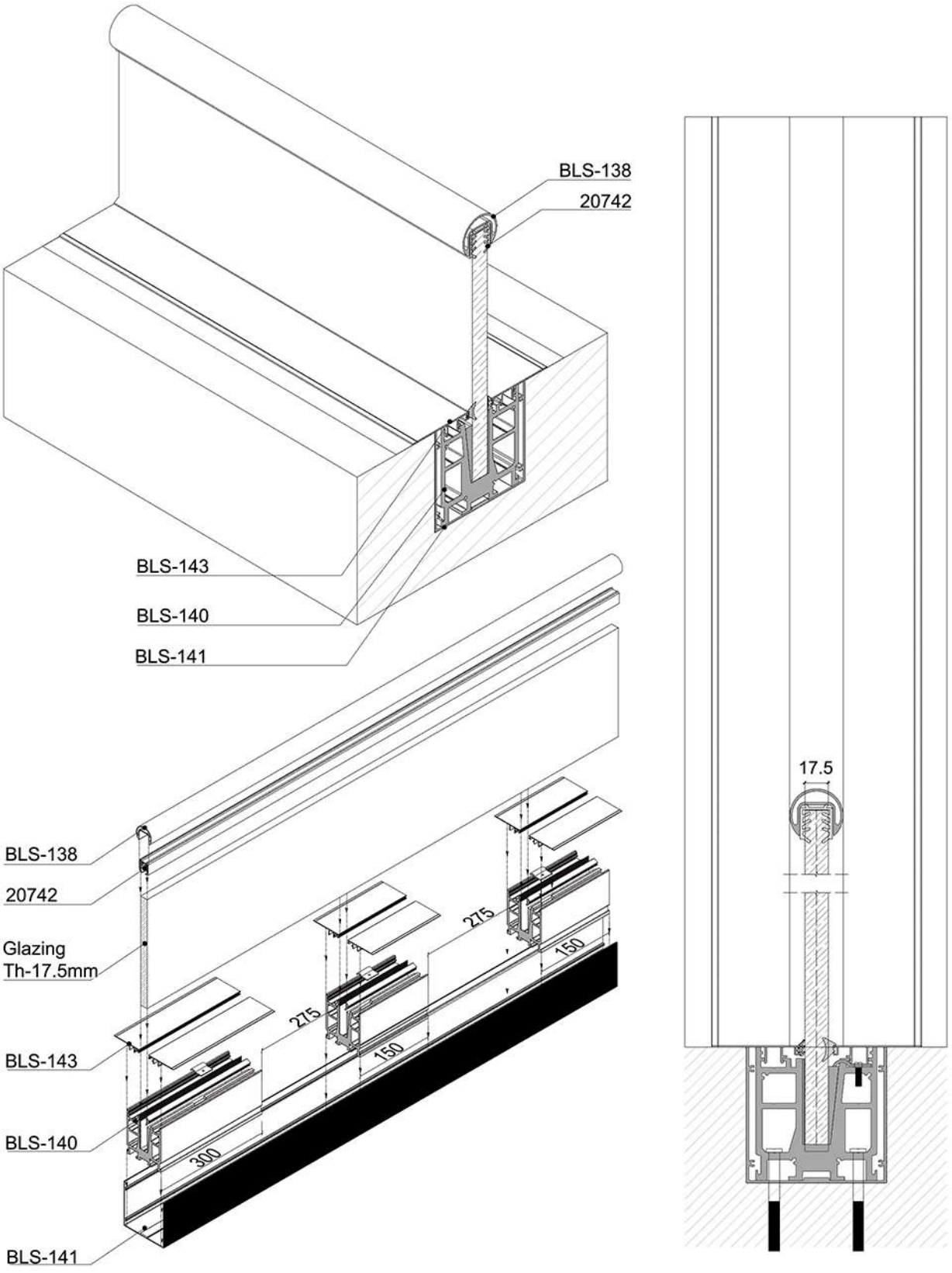
Handrail & Glass supporting System

Profile & Accessories Information



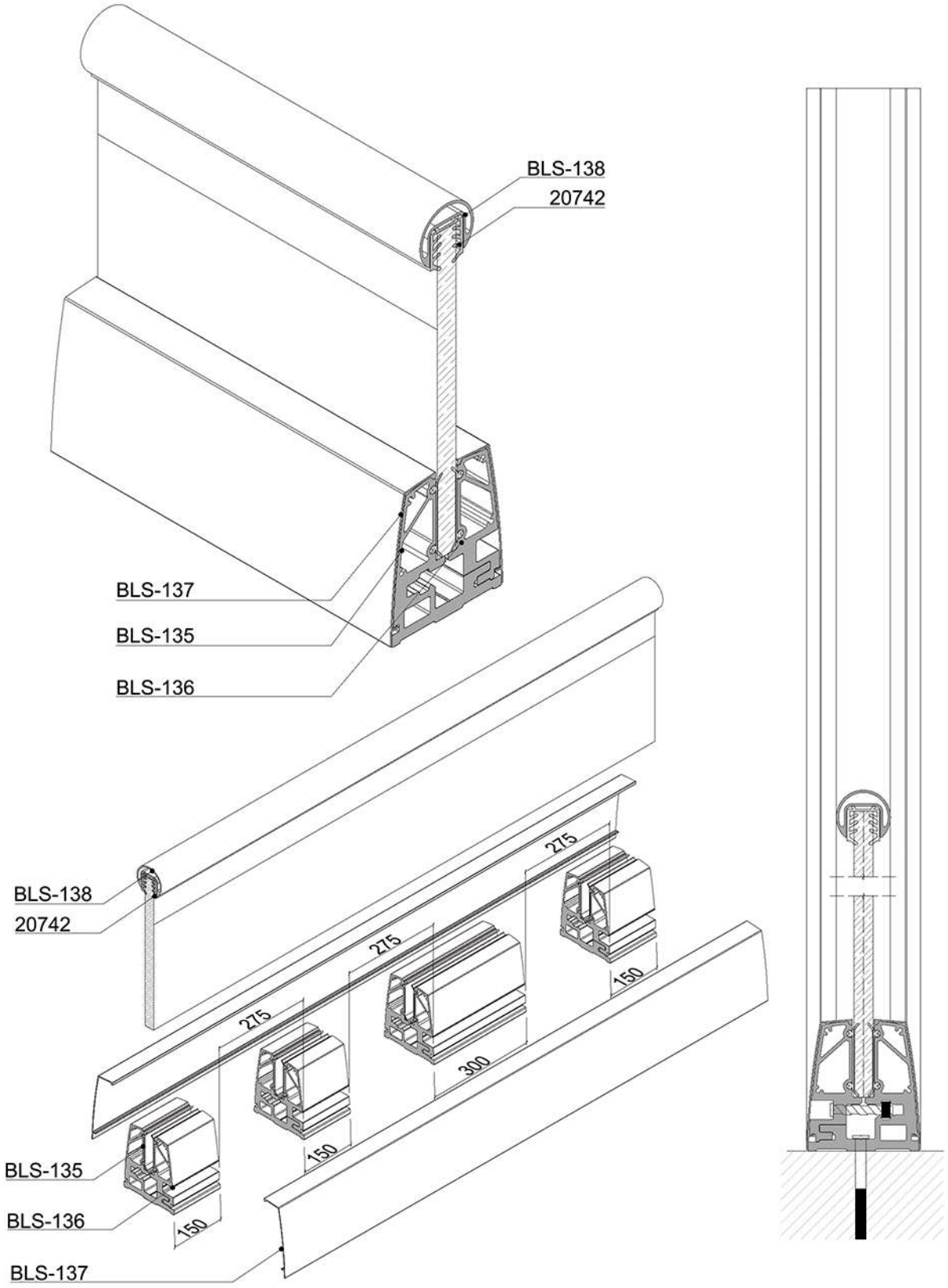
Handrail & Glass supporting System

Profile & Accessories Information



Handrail & Glass supporting System

Profile & Accessories Information



صنایع آلومـرول نوین
Alumroll Novin Co.

www.alumroll.com
info@alumroll.com
+98 21 45364
+98 86 33 13 4050
@alumroll_novin_akroll
@Alumroll

