



Machines & Aluminium Center

مرکز ماشینات و آلومینیوم



JUMBO 100

SLIDING SYSTEMS

2021

www.mac-alum.com

MACHINES & ALUMINIUM CENTER

Machines and Aluminum Center is an Egyptian based company established in the year 1981 and started its activity with aluminium applications in architectural and construction field.

They represent and cooperate with several leading European firms in field of aluminium business including aluminium fabrication machinery, accessories and hardware for architectural applications and different aluminium systems varying from windows and doors, up to facades and solar protection.

Our goal is to supply our clients with whatever is needed to apply our aluminium systems in the building construction. We are specialized in supplying all required machinery, equipments, dies, punches, hardware and fittings for our aluminium systems.

We offer a wide range of products to local market and neighbor countries. Our product range includes windows and doors, partition systems, different façade solutions and the related integrated accessories.

We partner with our customers with value added services which means that with the help of our specialized team of engineers, we provide our clients with technical support to assist them in improving their product's quality.

We are committed to innovative and creative product design to fulfill all architectural requirements. Our products can meet the most exacting engineering and technical standards while overcoming sophisticated design challenges.



Machines & Aluminium Center
مركز ماكينات ومستلزمات الألومنيوم

The profiles shown in this catalogue are patented.

The items shown are the exclusive property of **MACHINES & ALUMINIUM CENTER** and may not be even partially reproduced without **MACHINES & ALUMINIUM CENTER** authorization.

The manufacturer reserves the right to modify the items in this catalog without advanced notice.

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Technical Specifications

Materials

All aluminium profiles are from extruded aluminium alloy 6063 according to American standards ASTM B221 (B221M) - 02 - 2004 or German standards (Din 1748 Part 1).

Alloy Components:

■ Silicon	:	0.2 - 0.6 %
■ Iron	:	0.35 %
■ Manganese	:	0.10 %
■ Magnesium	:	0.45 – 0.9 %
■ Copper	:	0.1 %
■ Chromium	:	0.1 %
■ Zinc	:	0.1 %
■ Titanium	:	0.05 - 0.1 %
■ Aluminium	:	All the rest

Alloy Specifications:

- Tensile Strength: At least 1550 kg/cm²
 - Yield Strength: At least 1100 kg/cm²
 - Elongation: Up to 8.0 %
-
- All plastics parts are made from nylon reinforced with fiber glass which has high mechanical properties.
 - All gaskets are made from extruded E.P.D.M. – in a hardness to suit its applications.
 - All fasteners within accessories are made from galvanized steel and stainless steel.



Finish

All exposed surfaces of the aluminium profiles is treated either by anodizing treatment (according to DIN 17611) or by electrostatic powder coating to meet international standards.

Anodizing treatment according to DIN 17611 with thickness from 16 to 20 micron according to next standards:

- Abrasion A.S.T.M. D-968-72
- Acid A.S.T.M. D-3260-73
- Detergent A.S.T.M. D-2248-73

Electrostatic powder coating according to RAL Specifications with thickness more than 70 micron.

Technical Features

- Many varieties are available in frame section and sash sections also.
- A full range of accessories is available for the various door and window types.
- Tolerance weights and dimensions according to standard ANSI H35.2 TABLE5 or (Din 1748).
- Corner Joints are assembled using die cast aluminium corner cleat or locking brackets with dowels, also using different types of angles to keep of right angle.
- Rollers have a high load capacity; that a couple of single rollers can carry a sliding leaf that weigh up to 90 kg, and a couple of double rollers can carry a leaf that weigh up to 160 kg.
- The profiles provide a large range of infill types and measures, due to the availability of different profile types and a wide range of gaskets measures.
- Additional locking points are available to make more security for the window which make opening or moving leaf is impossible.
- According to moment of inertia value of selected profiles and window type, wind load resistance can be calculated avoiding any deformation grater than 1200/ of window span under load up to 500 Pascal.
- Water infiltration is confirms to American standard a.s.t.m. E313, with no penetration up to 10.0 psf and not grater than 1.5 cubic meter per hour per meter length of opening joint at pressure 100 N/m²



Powder Coating

ALWAN is one of the largest facilities in Egypt, in the field of electrostatic application of pure-polyester powder coatings as surface treatment, specifically designed to meet stringent requirements of the construction industry for architectural and industrial aluminum profiles.

We guarantee complete customer satisfaction on all our delivered products. Every production line has a fully equipped laboratory in order to meet all international quality specifications and standards as set by the QUALICOAT organization. The certifications of QUALICOAT , Quality Management ISO 9001 and Environmental Management ISO 14001, provide complete quality assurance. We ensure a full control over all the critical parameters concerning chemical pretreatment and the use of enhanced chemical pretreatment process, with high etching degree, in accordance to QUALICOAT specifications, as well as a full control on the painting processes and polymerization during the whole surface treatment procedure. Therefore, through a unique blending system, stringent quality assurance and compliance to measures, consistent quality during the production process is guaranteed.

The application of the above-mentioned steps will assist along the line with the overall excellent properties and the longevity of the color, providing an attractive finish to the projects and building components by ensuring gloss retention, color stability and corrosion protection.

Available Colors

In regards to the colors, they are available in RAL Gloss & RAL matt. The gloss affects how the eye perceives color so some slight variations in the finish may occur. In addition to that, the coating provides a wide range of custom-made colors that gives a variety of effects, including metallic effects.



Most of the colors are available in standard durable and some are available in super durable, which complies with advanced levels of weather resistance, gloss and color retention, and corrosion resistance, when compared to the standard durable specification.

Color customization to our standard products may be available on a request basis, with unlimited options of powder coating. In this respect, Non-standard designs and applications can be reviewed to determine the feasibility on a project-specific basis.

Warranty

The warranty is subject to terms and conditions based on the geographical location & when used on an architectural aluminum substrate.

Standard Durable Class 1: Up to 10 years

Super Durable Class 2: Up to 25 years

Notes:

- As the products are very often used under conditions beyond supplier's control, we cannot guarantee anything but the quality of the product itself.
- It is expected that any fading and/or chalking and/or change in gloss retention, either uniform or non-uniform that a color will experience in the field will result in the falling within acceptable range as specified in the Qualicoat specification standards.

*QUALICOAT is a quality label organization committed to maintaining and promoting the quality of lacquering, painting and coating on aluminum and its alloys, for architectural applications.



CERTIFICATE

for a COATING APPLICATOR



hereby authorises

MACHINES & ALUMINIUM CENTER (ALWAN)

213, SECOND INDUSTRIAL ZONE
6TH OF OCTOBER CITY
GIZA
Egypt

to use the quality label in conformity with the
QUALICOAT 2021 Specifications, applicable from 1 January 2021

Licence No.: 1609

Date of Granting: 06.05.2021

Valid until: 31.12.2021

Zurich, 6 May 2021

QUALICOAT

M. C. Panam

Mohammed C. Panam
President



Sue C. C. Paredi

Sue C. C. Paredi
Managing Director

QUALICOAT | Tödistrasse 48, 8002 Zurich, Switzerland | www.qualicoat.net





CERTIFICATE OF REGISTRATION

INTERCERT hereby certifies that Quality Management System of

Machines & Aluminium center



Office: Street No.75, Piece No. 32, 1st Industrial Zone, 6th of October City, Egypt.

مركز ماكينات ومعالجات الألمنيوم
(القاهرة)

Site: Piece No. 213, 2nd Industrial Zone, 6th of October city, Egypt.

Has been successfully assessed as per the requirements of

ISO 9001:2015

For the scope of

Trading, Treatment and Painting of Aluminum Profile

Initial Certification Date: 07-06-2021

Certificate Issue Date: 07-06-2021

Surveillance Validity Date: 06-06-2022

Recertification Date: 06-06-2024

Registration Number: IC-QM-2106051

Signature of InterCert Head - Certifications

Issued on behalf of InterCert
Head - Certifications



The validity of this certificate can be verified at www.intercert.com or through email at info@intercert.com. This certificate is the property of INTERCERT and must be returned on request. Accreditation details are available with IAS, (International Accreditation Services) Inc. USA at www.iasonline.org



CERTIFICATE OF REGISTRATION

INTERCERT hereby certifies that the Environmental Management System of

Machines & Aluminium center

Office: Street No.75, Piece No. 32, 1st Industrial Zone, 6th of October City, Egypt.

Site: Piece No. 213, 2nd Industrial Zone, 6th of October city, Egypt.



مركز ماكينات ومعالجات الألمنيوم
(القاهرة)

Has been successfully assessed as per the requirements of

ISO 14001:2015

For the scope of

Trading, Treatment and Painting of Aluminum Profile

Initial Certification Date:	07-06-2021
Certificate Issue Date:	07-06-2021
Surveillance Validity Date:	06-06-2022
Recertification Date:	06-06-2024

Registration Number: IC-EM-2106052

Issued on behalf of InterCert
Head - Certifications



The validity of this certificate can be verified at www.intercert.com or through email at info@intercert.com. This certificate is the property of INTERCERT and must be returned on request. Accreditation details are available with IAS, (International Accreditation Services) Inc. USA at www.iasonline.org



AkzoNobel

Interpon D Approved Applicator

Series D1000

MACHINES AND ALUMINIUM CENTER
(Alwan)
213, 2nd industrial Zone, 6th of October City, Giza
Egypt

Has fulfilled AkzoNobel's tests and inspection regarding the pre-treatment, application, quality management standards and procedures, and complies with the requirements of the Architectural Range Approved Applicator schedule.

This certificate is effective from
31st May 2021 to 30th May 2022

Approved for Aluminium Alloys: AA5050

Approved for Pre-treatment Type: Chrome

[Signature]
Wael Mahmoud
Sales and Marketing Manager
North Africa & Levant

3/1/2021

AkzoNobel Industrial Paints



AkzoNobel

Interpon D Approved Applicator

Series D2000

MACHINES AND ALUMINIUM CENTER
(Alwan)
213, 2nd industrial Zone, 6th of October City, Giza
Egypt

Has fulfilled AkzoNobel's tests and inspection regarding the pre-treatment, application, quality management standards and procedures, and complies with the requirements of the Architectural Range Approved Applicator schedule.

This certificate is effective from
31st May 2021 to 30th May 2022

Approved for Aluminium Alloys: AA5050

Approved for Pre-treatment Type: Chrome

[Signature]
Wael Mahmoud
Sales and Marketing Manager
North Africa & Levant

3/1/2021

AkzoNobel Industrial Paints



To Whomever it may concern

Date: 18th April 2021

Subject: Powder coating facility of **Machines and Aluminium Center**, under the process of Jotun approved applicator certification to coat Jotun Architectural products.

Dear Sir/ Madam

This refers to above subject, here with we confirm you that for **Machines and Aluminium Center**, located in **Second Industrial Zone, Plot 213, 6th of October, EGYPT** is under the process of Jotun Approved applicator certification to coat Jotun Architectural products.

Preliminary audit has already been conducted, final audit will be conducted soon for certification. This letter is valid for six (6) months from the date above.

Please don't hesitate to contact me in case further clarifications

Goctfrey L. Brazil

Technical Service Executive



Jotun Powder Coatings U.A.E. (LLC)
P.O. Box 31053, Dubai | Email: sales@jotun.ae
Tel: +971 4 347 2535 | Fax: +971 4 347 2615 | www.jotun.ae

Bankers
The National Bank
Emirates Bank

Bank A/C: 71768810111414/14/14
R/C No: 42095
Paid up capital AED 3,000,000



Applicator approval certificate

Machines & Aluminium Center
(Alwan)

Is acknowledged by us to be an approved applicator to series 29 Powder coatings product line

Date of certificate : 20/5/2021

Date of expiration : 21/5/2022

This certificate is granted after a complete audit of pre-treatment used by the applicator, inspection of the oven, equipment, and knowledge of staff. We hereby acknowledge that Machines & Aluminium center fulfills our standards for an approved applicator.

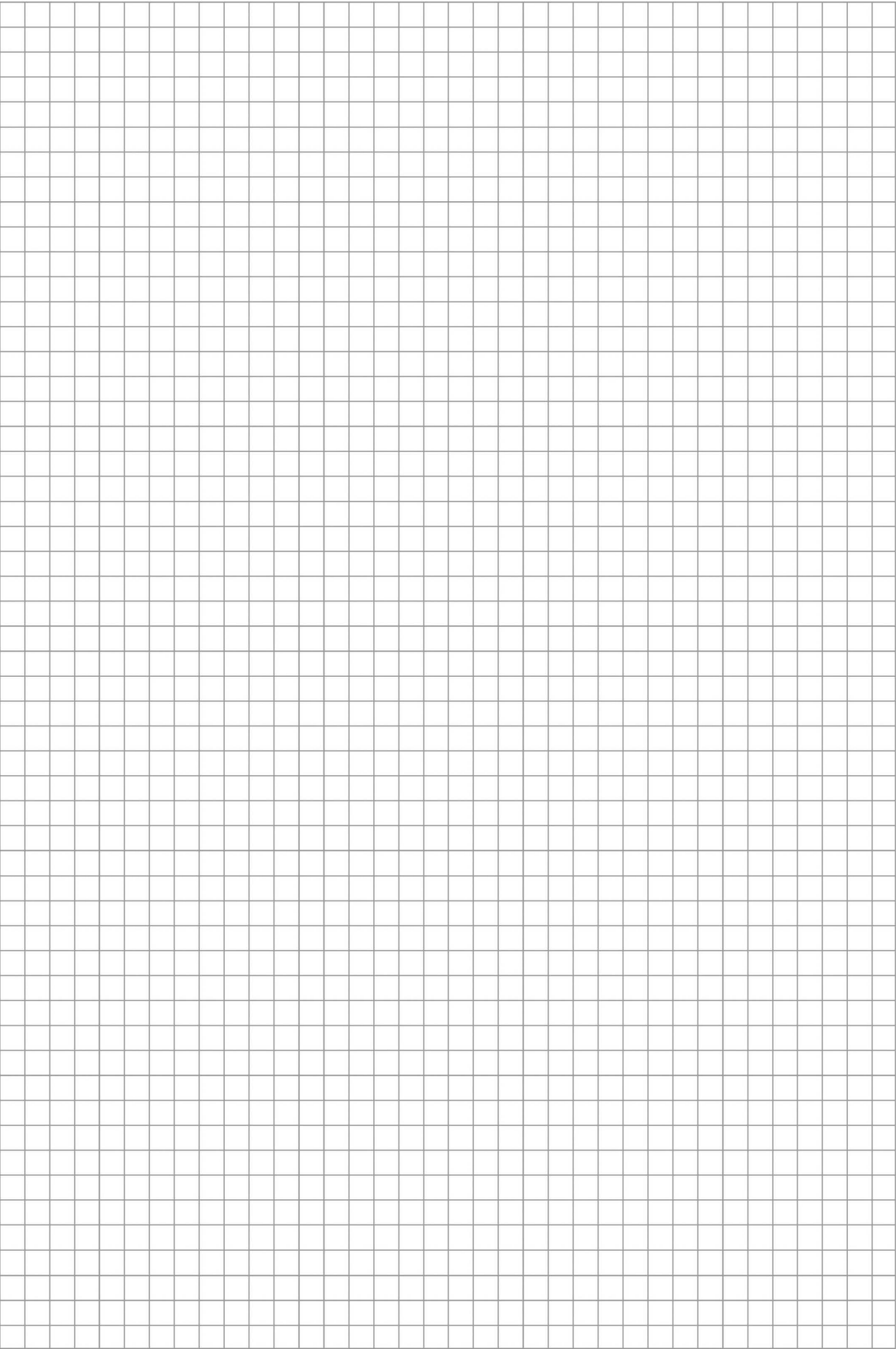
Authorized signature
CEO

Authorized signature
Commercial director

[Signature]

البيكوت للدهانات (كوالاما)
ب. ش. م. ٩٦٦ - ٩٦٧

[Signature]





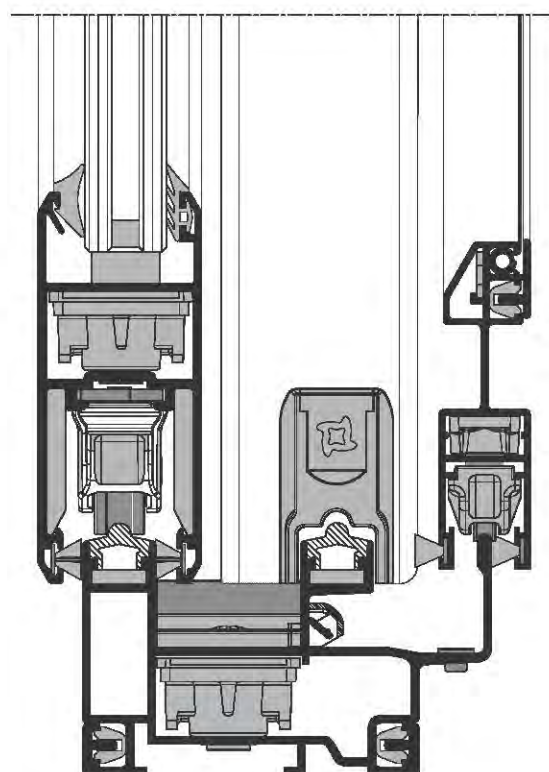
- Wide variety of frames and sashes in design and aesthetic shapes that match the architectural trends.
- Available in the double or triple track design, structures with up to six leaves.
- Used for doors and windows with large openings.
- Wide range of locking systems including multi locking points and anti-lift blocks.
- Most of the accessories can be adjusted and fixed with set screws.

Technical Characteristics

Frame	Depth	74 mm. to 134 mm.
	Height	53 mm. to 107 mm.
Sash	Depth	36 mm.
	Height	86 mm.
Max Glass Thickness	Up to 26 mm.	
Max Sash Weight	Up to 200 kg.	
Sealing Type	Perimetrical, with two rows of high-density brushes	

Complies with European norm hEN 1435-1

Air Permeability	(Class 3) up to 600 pa.
Water Tightness	(Class 8A) up to 450 pa.
Resistance to wind load	(Class B2) up to 800 pa.





EUROPEAN CERTIFYING ORGANIZATION S.P.A.
NOTIFIED TESTING LABORATORY N. 0714
FOR REGULATION (EU) No 305/2011
CLASSIFICATION ASSESSMENT
N. 0714-CPR-1288 DATED AUGUST, 05 2015

In compliance with Regulation (EU) No. 305/2011 of the European Parliament and of the Council of 9 March 2011, that replaces Council Directive 89/106/EEC and lays down conditions for the placing or making available on the market of construction products by establishing harmonised rules on how to express their performance in relation to their essential characteristics and taking account of the horizontal legal framework for the marketing of products in the internal market, established by Regulation (EC) No. 765/2008 of the European Parliament and of the Council of 9 July 2008 setting out the requirements for accreditation and market surveillance relating to the marketing of products, as well as by Decision No. 768/2008/EC of the European Parliament and of the Council of 9 July 2008 on a common framework for the marketing of products,

and in compliance with hEN 14351-1:2006 - A1:2010 Windows and doors - Product standard, performance characteristics - Part 1: Windows and external pedestrian doorsets without resistance to fire and/or smoke leakage characteristics, which is currently in force,

European Certifying Organization S.p.A., notified laboratory NB 0714, carried out the following:

type-testing

for the determination of the essential characteristics

Air Permeability - Water tightness - Resistance to Wind Load

on the below mentioned external pedestrian doorset without resistance to fire and/or smoke leakage characteristics

In compliance with EN 12207:1999, EN 12208:1999, EN 12210:1999 - Classification,

EN 1026:2000, EN 1027:2000, EN 12211:2000 - Tests and calculations

System of assessment and verification of constancy of performance 3

The specimen, as provided by the Manufacturer, was identified as follows:

DESCRIPTION OF THE PRODUCT

Type: Single hinged window, inward opening.
Model: SONATA 45
Width = 800 mm, Height = 1,200 mm, Thickness = 53 mm
Fabrication number: -
Date of fabrication: 2015

PRODUCED IN THE FACTORY

Name: MACHINES & ALUMINIUM CENTER
Address: 122, MOHIY AL-DIN ABU AL-EZZ ST., DOKKI - GIZA - EGYPT

PLACED ON THE MARKET BY

Name: MACHINES & ALUMINIUM CENTER
Address: 122, MOHIY AL-DIN ABU AL-EZZ ST., DOKKI - GIZA - EGYPT

Taking into account the documentation submitted by the Manufacturer and on the basis of the results of the type-testing carried out, as described in the laboratory report ECO CP0025/1, dated August, 05 2015, in accordance with Annex ZA of hEN 14351-1:2006 - A1:2010 and with the EN 12207:1999, EN 12208:1999 and EN 12210:1999 classification, to the specimen, as previously identified,

THE FOLLOWING CLASSIFICATION IS AWARDED

AIR PERMEABILITY:	CLASS 4
WATERTIGHTNESS:	CLASS E900
RESISTANCE TO WIND LOAD:	CLASS C4

The results refer only to the specimen that has been provided by the Manufacturer and submitted to type-testing listed above.
This classification assessment consists of 1 page and its reproduction is permitted in full only.

Faenza, August, 05, 2015

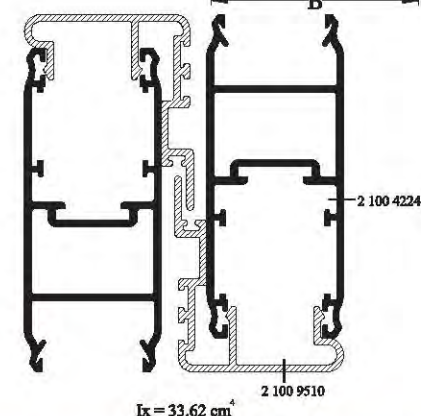
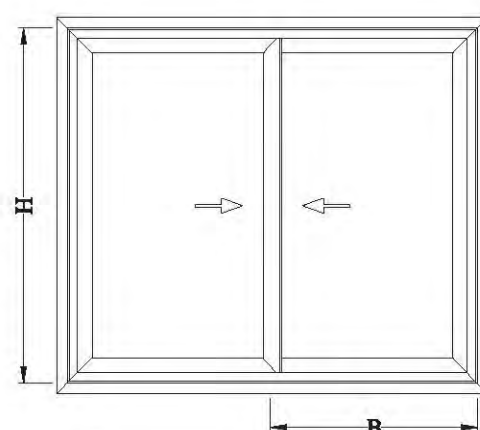
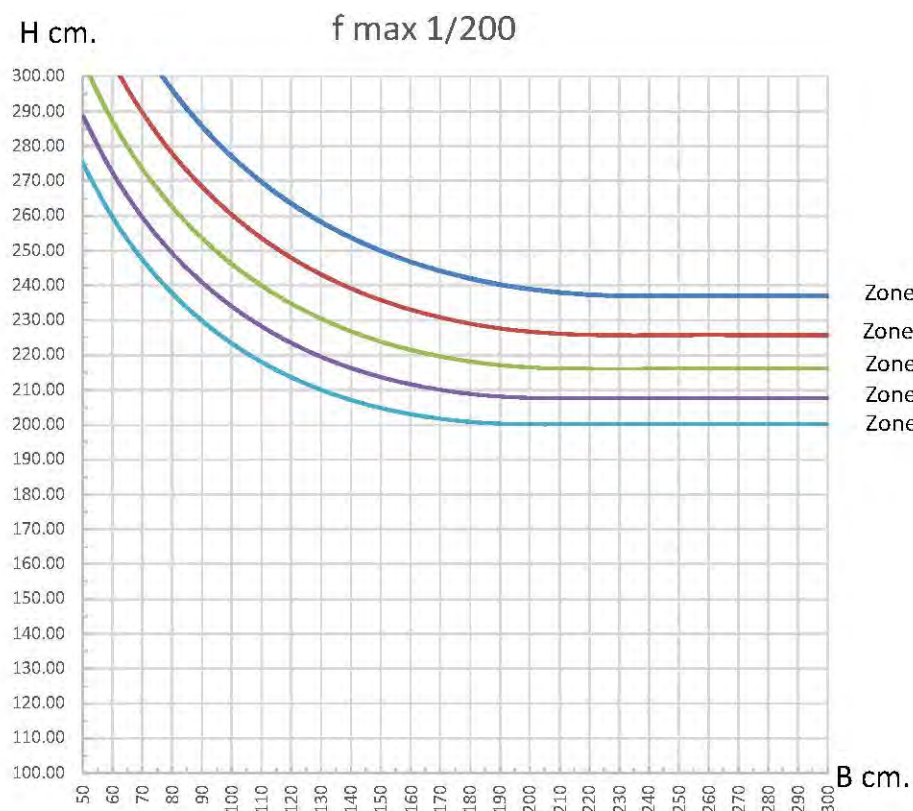
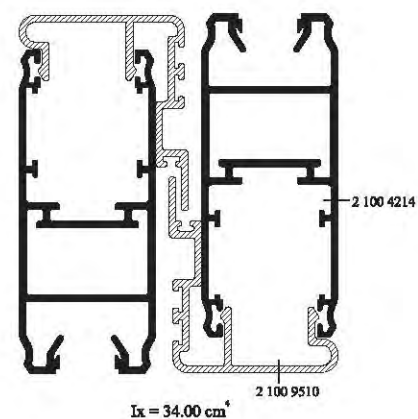
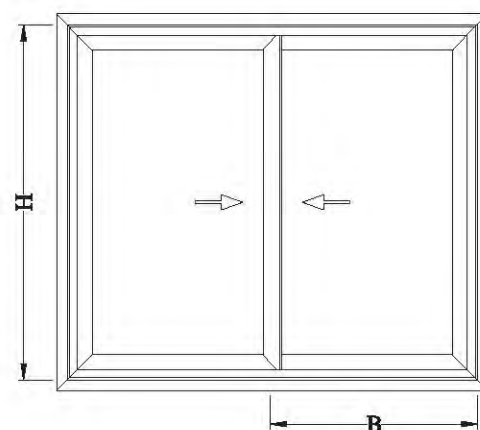
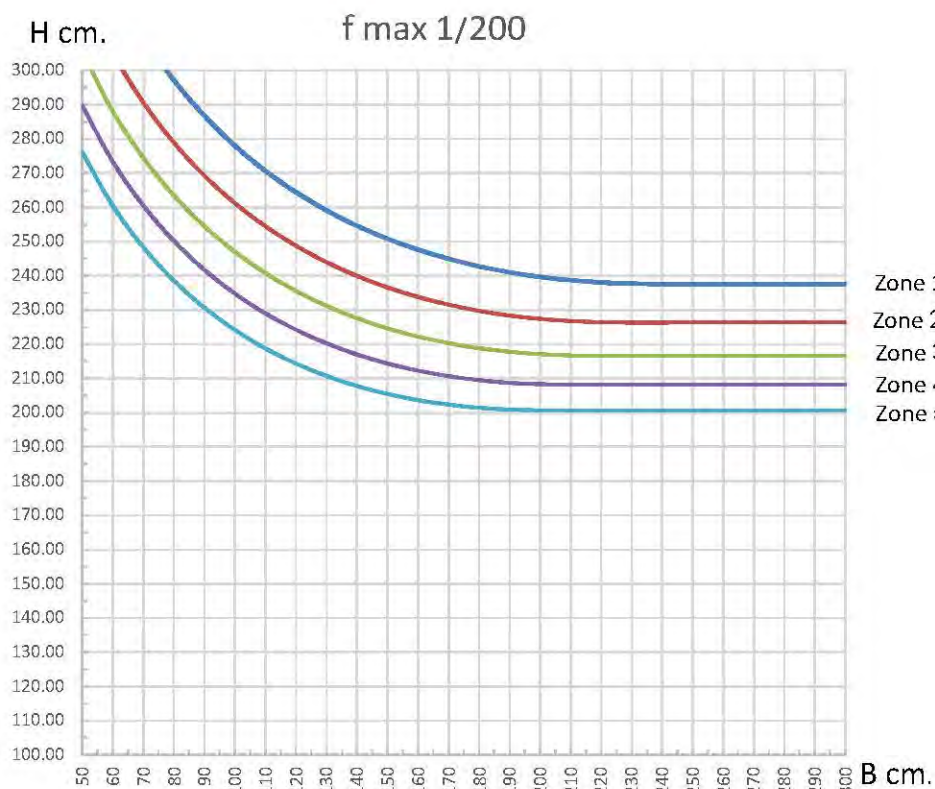
The undersigned ECO Certificazioni S.p.A.

Eng. Gianluca Cammelli Mengolina, 13

FAENZA (RA)

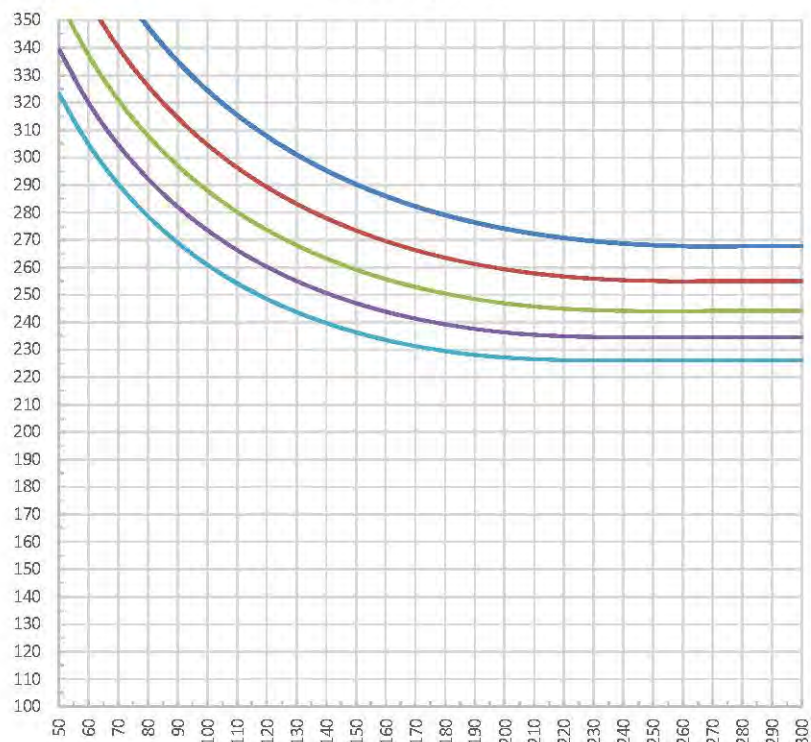


ECO Certificazioni S.p.A. - Via Mengolina, 13
48018 Faenza (RA) - ITALY
Tel.: +39 0546 624911 - Fax +39 0546 624922
E-mail: info@eco-cert.it - www.ecocertificazioni.eu

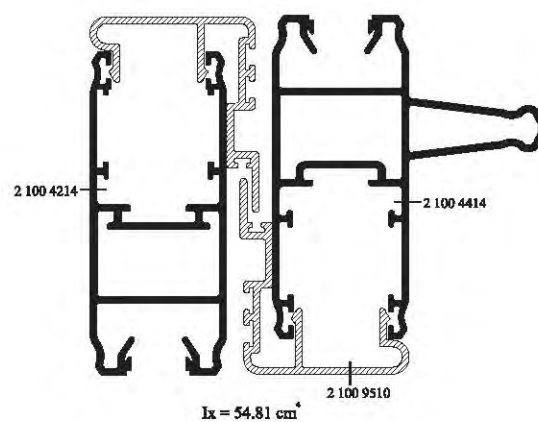
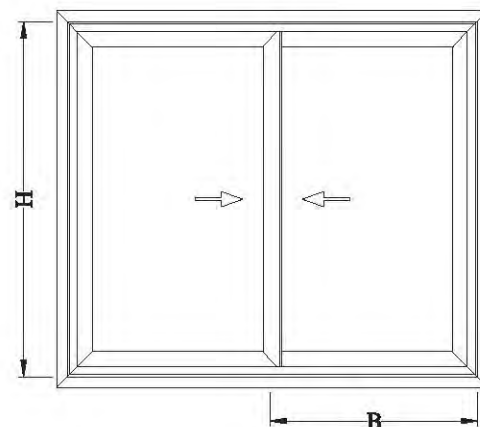




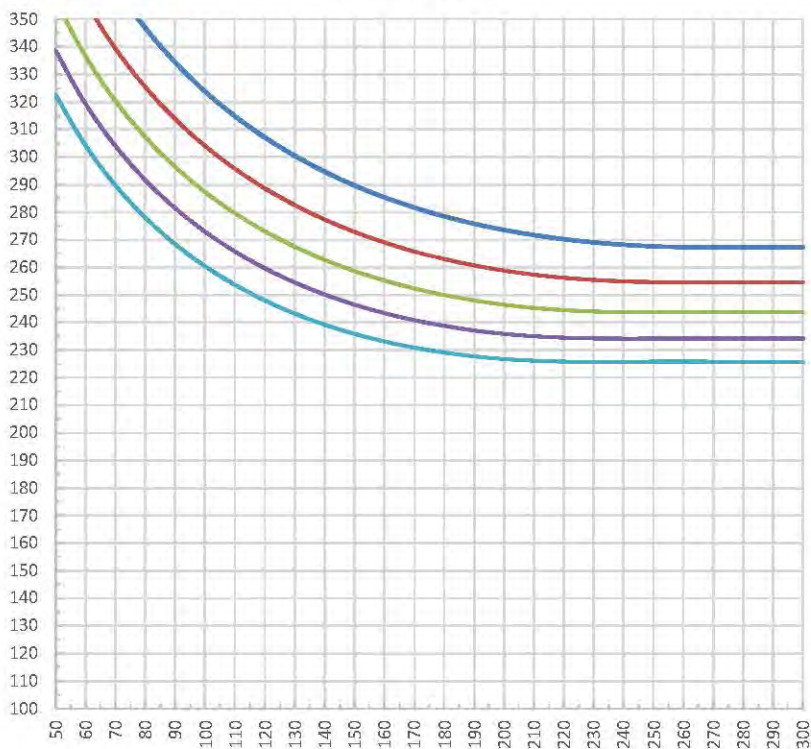
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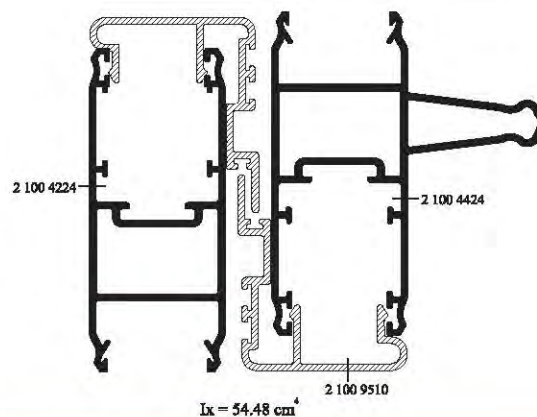
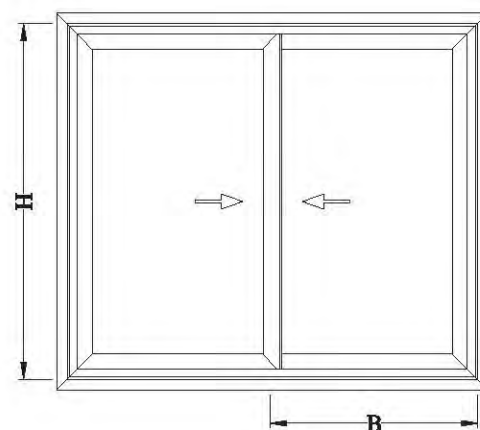
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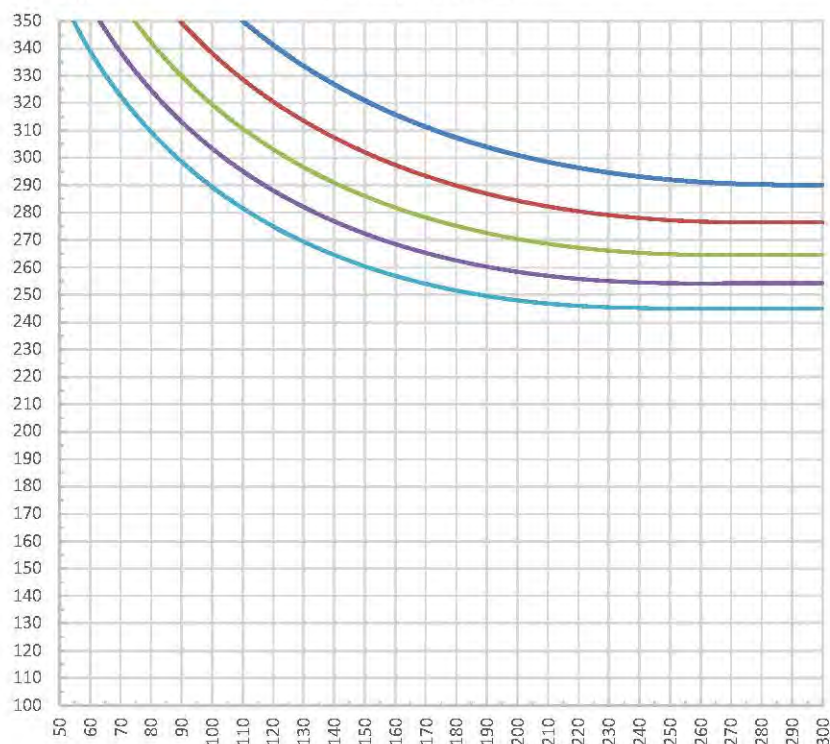


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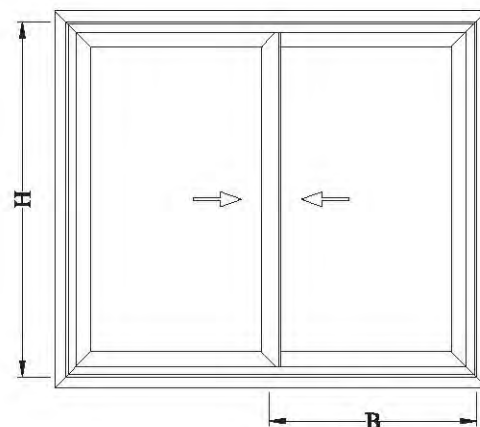




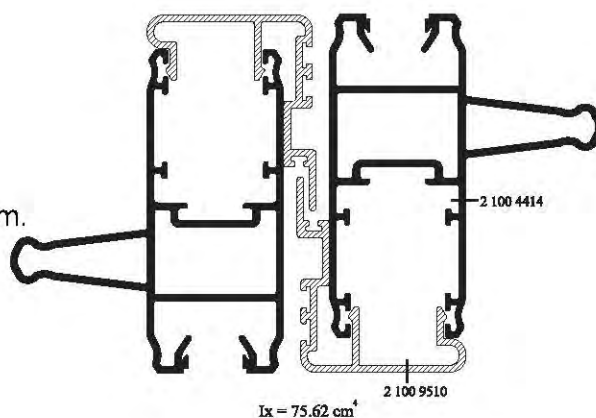
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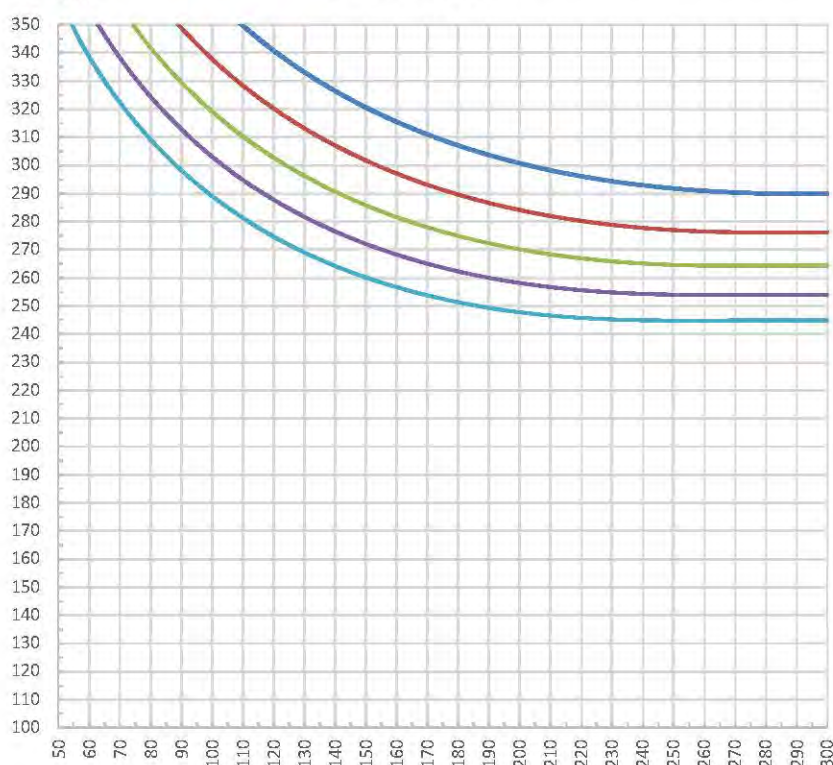
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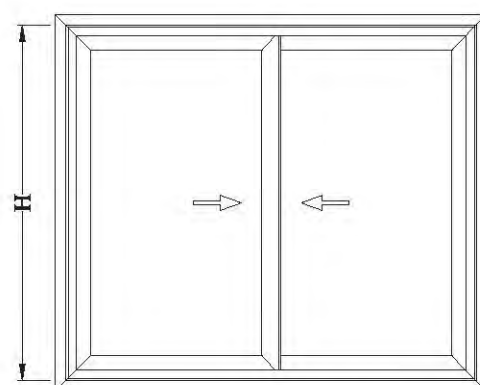
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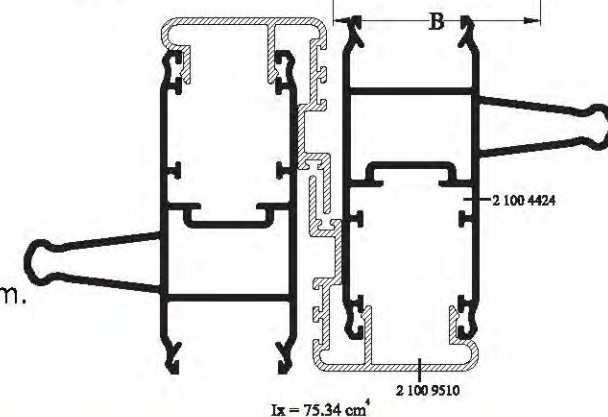
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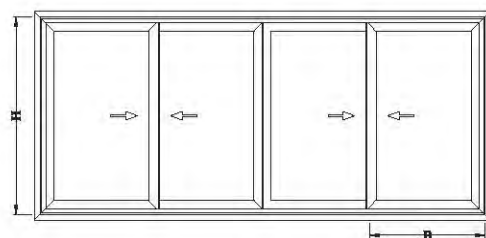
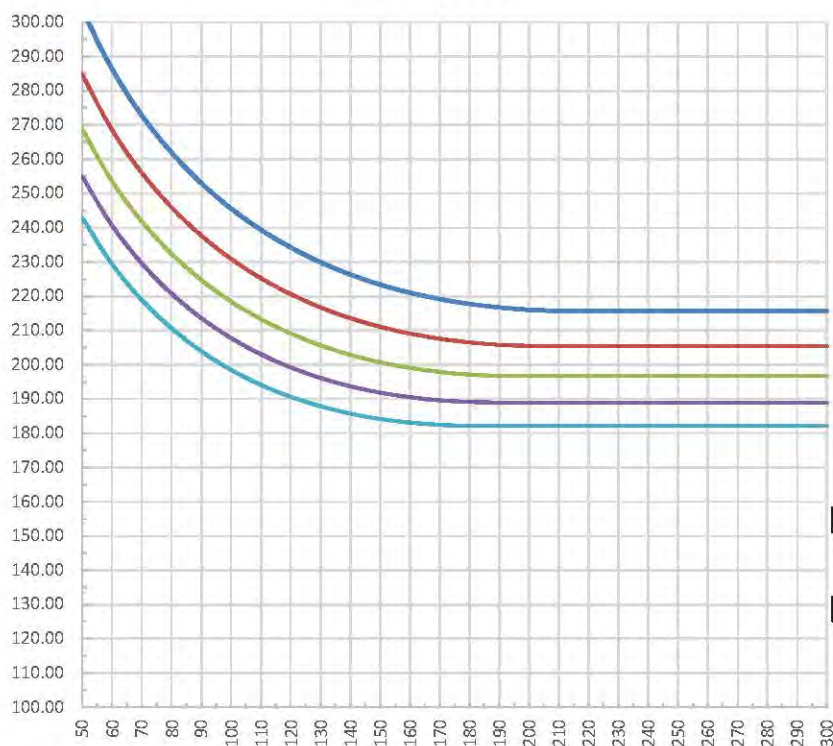


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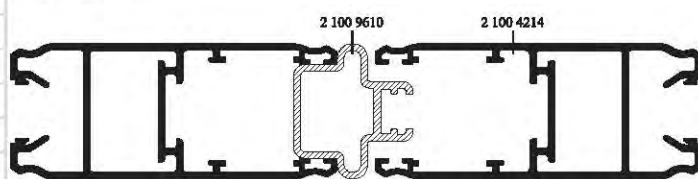




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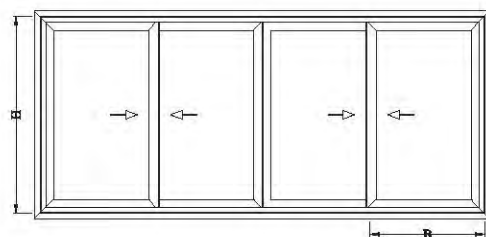
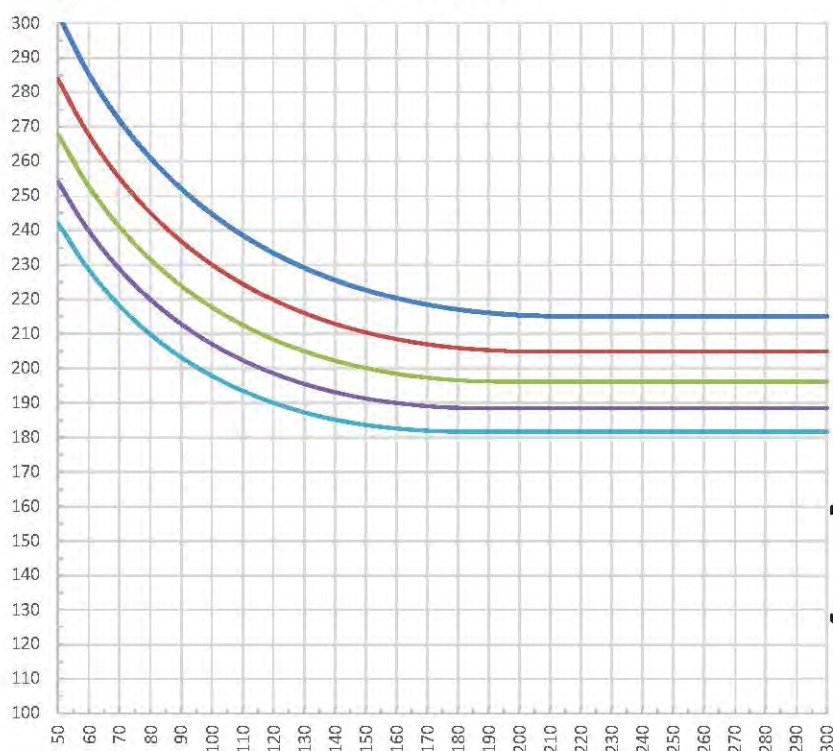
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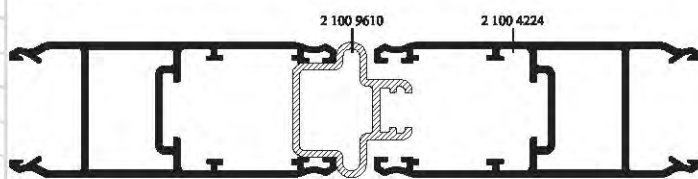
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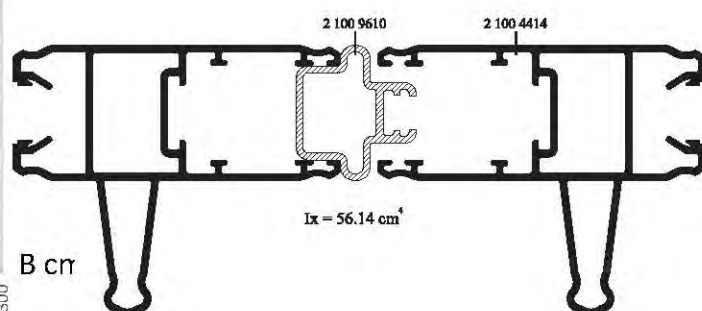
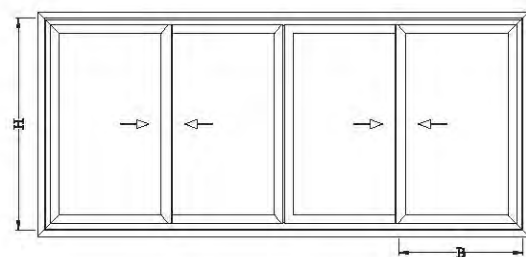
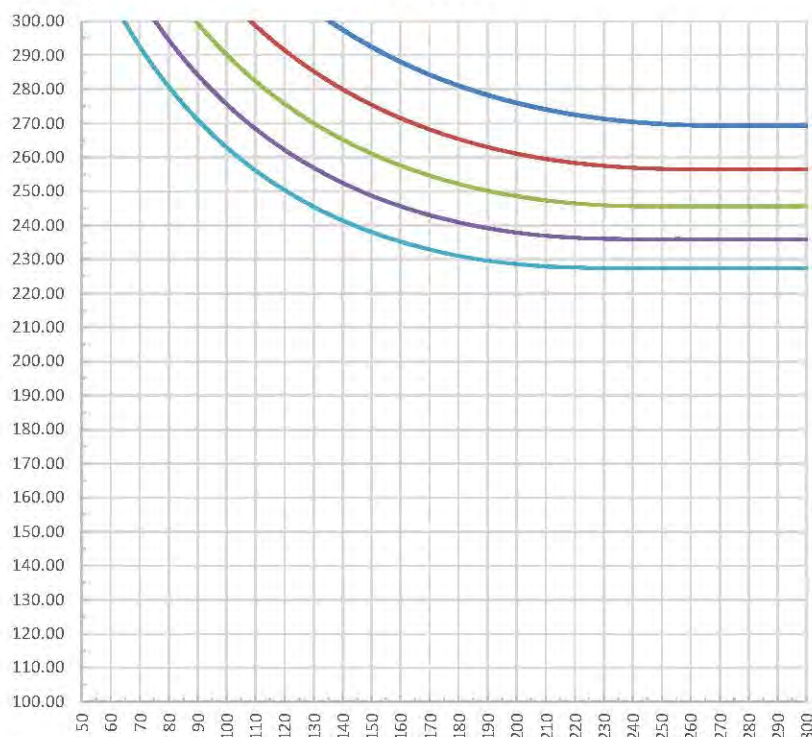


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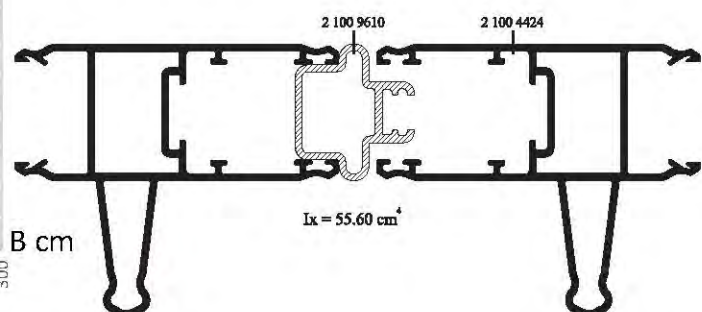
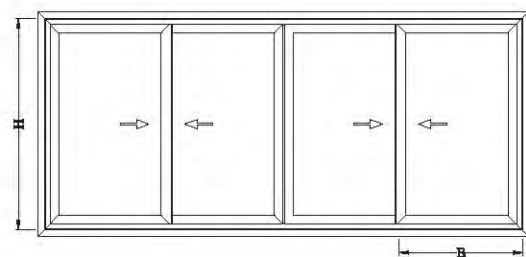
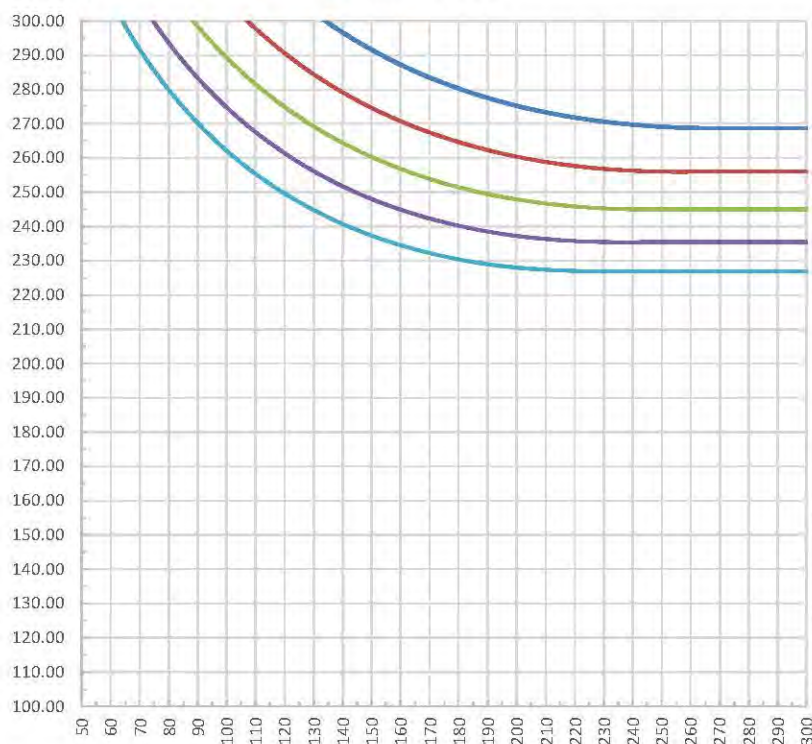
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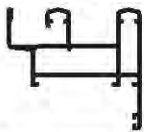
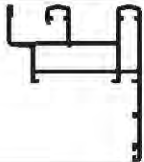
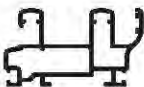
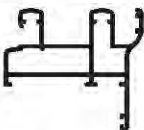
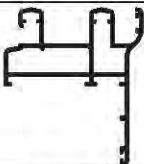
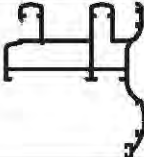
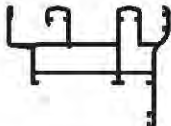
H cm. f max 1/200



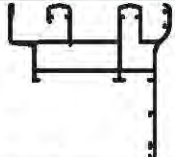
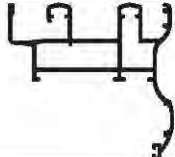
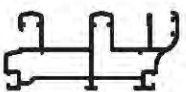
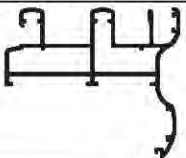
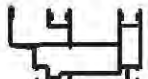
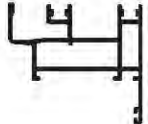
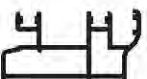
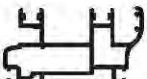
H cm. f max 1/200





Section	Code	Description	Weight Kg/m	PER. mm	Inertia		Page
					I _x cm ⁴	I _y cm ⁴	
	2 100 1020	Frame	1.504	439.92	15.71	41.40	
	2 100 1120	Frame	1.768	518.32	28.19	53.26	
	2 100 1130	Frame	1.667	561.51	23.47	55.42	
	2 100 1150	Frame	1.784	619.50	41.24	60.61	
	2 100 1320	Frame	1.793	536.4	17.59	55.31	
	2 100 1330	Frame	1.861	581.42	26.09	59.50	
	2 100 1350	Frame	1.972	641.82	43.89	63.38	
	2 100 1352	Frame	2.098	663.09	51.74	71.32	
	2 100 1420	Frame	2.013	620.09	19.14	81.83	
	2 100 1430	Frame	2.094	665.11	28.19	89.69	

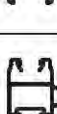
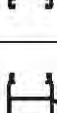
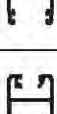


Section	Code	Description	Weight Kg/m	PER. mm	Inertia		Page
					I _x cm ⁴	I _y cm ⁴	
	2 100 1450	Frame	2.263	725.51	46.87	95.50	
	2 100 1452	Frame	2.279	746.78	55.25	105.80	
	2 100 1520	Frame	2.135	632.76	20.06	99.70	
	2 100 1552	Frame	2.447	757.10	55.03	132.82	
	2 100 2020	Frame	1.527	459.98	13.06	32.98	
	2 100 2030	Frame	1.559	502.22	20.06	37.69	
	2 100 2120	Frame	1.755	543.68	15.05	52.50	
	2 100 2130	Frame	1.793	585.91	22.58	59.93	
	2 100 2300	Frame	1.646	525.02	13.81	52.14	
	2 100 2320	Frame	1.772	558.60	15.17	54.83	



Section	Code	Description	Weight Kg/m	PER. mm	Inertia		Page
					I _x cm ⁴	I _y cm ⁴	
	2 100 2350	Frame	1.956	664.43	40.67	63.10	
	2 100 2352	Frame	2.041	658.70	48.30	71.12	
	2 100 2420	Frame	2.005	642.30	19.93	81.08	
	2 100 2432	Frame	2.155	718.71	29.85	96.85	
	2 100 2452	Frame	2.271	769.39	48.30	71.12	
	2 100 2453	Frame	2.241	781.71	51.11	102.61	
	2 100 2520	Frame	2.147	675.24	18.14	100.44	
	2 100 2552	Frame	2.423	809.98	52.09	133.10	
	2 100 2820	Frame	2.419	744.66	20.18	155.84	
	2 100 2850	Frame	2.590	853.89	46.35	177.77	

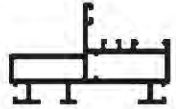
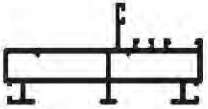
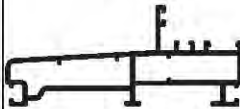


Section	Code	Description	Weight Kg/m	PER. mm	Inertia		Page
					I _x cm ⁴	I _y cm ⁴	
	2 100 4110	Sash	1.415	516.67	31.90	11.18	
	2 100 4113	Sash	1.377	502.06	29.70	10.81	
	2 100 4214	Sash	1.346	512.16	30.45	10.50	
	2 100 4120	Sash	1.318	468.90	27.22	10.94	
	2 100 4220	Sash	1.292	465.42	26.82	10.86	
	2 100 4224	Sash	1.265	466.67	26.22	10.36	
	2 100 4141	Sash	1.253	449.02	25.34	9.99	
	2 100 4414	Sash	1.694	578.06	32.35	26.51	
	2 100 4424	Sash	1.613	532.56	28.70	26.19	
	2 100 4518	Sash	1.440	519.63	31.85	11.12	



Section	Code	Description	Weight Kg/m	PER. mm	Inertia		Page
					Ix cm ⁴	Iy cm ⁴	
	2 100 4528	Sash	1.334	470.17	26.79	10.88	
	2 100 5110	Transom	1.199	365.24	29.41	4.83	
	2 100 5140	Transom	1.065	317.70	21.24	6.82	
	2 100 6120	Glass Beading	0.204	107.41			
	2 100 6180	Glass Beading	0.148	73.82			
	2 100 9910	Rod	0.292	145.73			
	2 100 9510	Central Connection	0.648	304.48			
	2 100 9514	Central Connection	0.583	273.85			
	2 100 9518	Central Connection	0.594	276.36			
	2 100 9560	Central Connection	1.352	533.05			



Section	Code	Description	Weight Kg/m	PER. mm	Inertia		Page
					I _x cm ⁴	I _y cm ⁴	
	2 100 9210	Rail	0.139	63.60			
	2 100 9220	Rail	0.169	67.08			
	2 100 9610	Central insert	0.572	158.92	2.32	2.09	
	1 045 2082	Connection Profile with sonata 45	1.345	447.98	7.17	32.92	
	1 045 2102	Connection Profile with sonata 45	1.539	491.57	8.06	60.09	
	1 045 2122	Connection Profile with sonata 45	1.612	509.31	8.26	87.31	
	5 025 1060	Fly Screen Rail	0.319	121.43			
	5 025 1110	Fly Sreen Rail	0.351	149.00			
	5 025 2110	Fly Screen Rail	0.583	207.41	3.22	2.83	
	5 020 4210	Fly Screen Leaf	0.313	185.12	1.50	0.29	



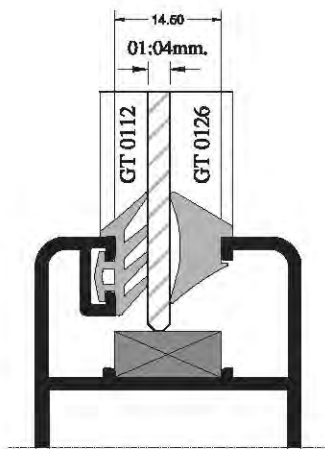
Section	Code	Description	Weight Kg/m	PER. mm	Inertia		Page
					Ix cm ⁴	Iy cm ⁴	
	5 025 4100	Fly Screen Leaf	0.419	236.04	2.54	0.90	
	5 025 4140	Fly Screen Leaf	0.567	269.79	4.96	1.17	
	5 025 4210	Fly Screen Leaf	0.535	269.31	4.24	1.05	
	5 025 4240	Fly Screen Leaf	0.594	264.26	5.14	1.22	
	5 025 4230	Fly Screen Leaf	0.725	330.36	12.49	1.21	
	5 900 5020	Transom	0.385	105.20			
	5 900 5410	Transom	0.610	198.18			
	5 900 9100	Gasket Cover	0.100	53.20			
	9 001 1100	Gasket Cover	0.092	41.98			
	9 002 1220	Gasket Cover	0.289	81.23			



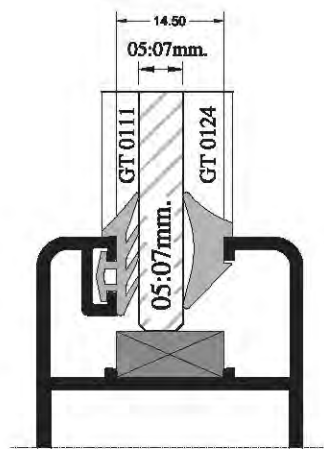
Section	Code	Description	Weight Kg/m	PER. mm	Inertia		Page
					I _x cm ⁴	I _y cm ⁴	
	9 002 1220	Gasket Cover	0.289	121.23			
	9 002 1700	Gasket Cover	0.378	181.73			
	9 001 1300	Gasket Cover	0.240	115.65			
	9 001 1302	Gasket Cover	0.308	153.80			
	9 001 1303	Gasket Cover	0.284	156.35			
	9 001 1304	Gasket Cover	0.259	130.82			
	9 001 1305	Gasket Cover	0.263	139.31			
	9 001 1308	Gasket Cover	0.289	140.07			
	9 001 1500	Gasket Cover	0.348	183.21			
	9 001 1502	Gasket Cover	0.424	204.48			



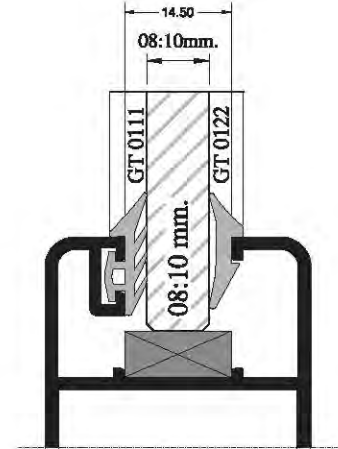
Section	Code	Description	Weight Kg/m	PER. mm	Inertia		Page
					I _x cm ⁴	I _y cm ⁴	
	9 002 1503	Gasket Cover	0.403	216.33			
	9 002 1504	Gasket Cover	0.370	191.22			
	9 001 1505	Gasket Cover	0.383	194.11			
	9 001 1508	Gasket Cover	0.402	197.07			
	9 001 1700	Gasket Cover	0.418	215.21			
	9 001 1702	Gasket Cover	0.473	232.62			
	9 001 1703	Gasket Cover	0.403	248.33			
	9 001 1704	Gasket Cover	0.434	223.22			
	9 001 1705	Gasket Cover	0.457	232.24			
	9 001 1708	Gasket Cover	0.482	238.07			



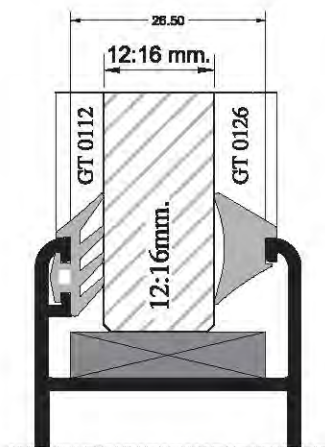
J 1040



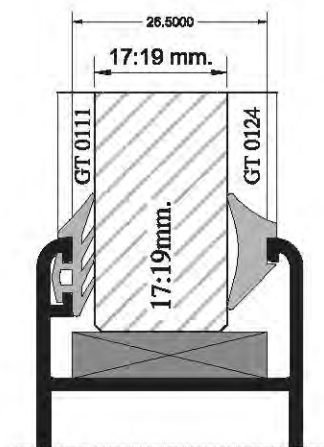
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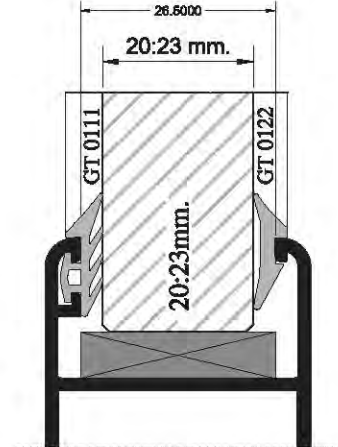
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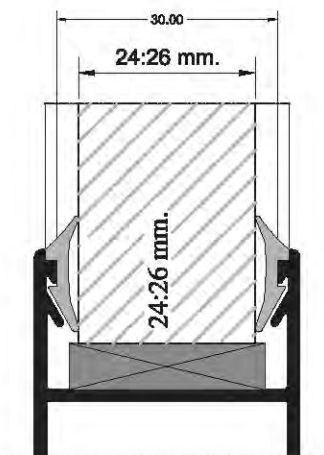
J 1042



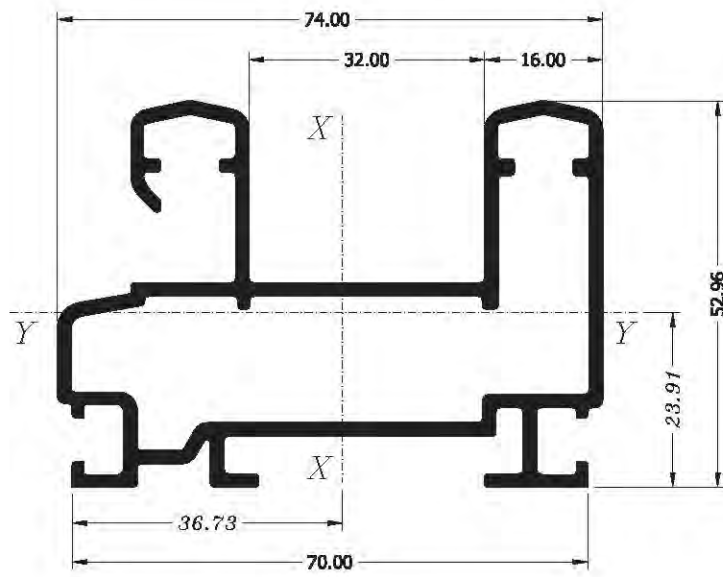
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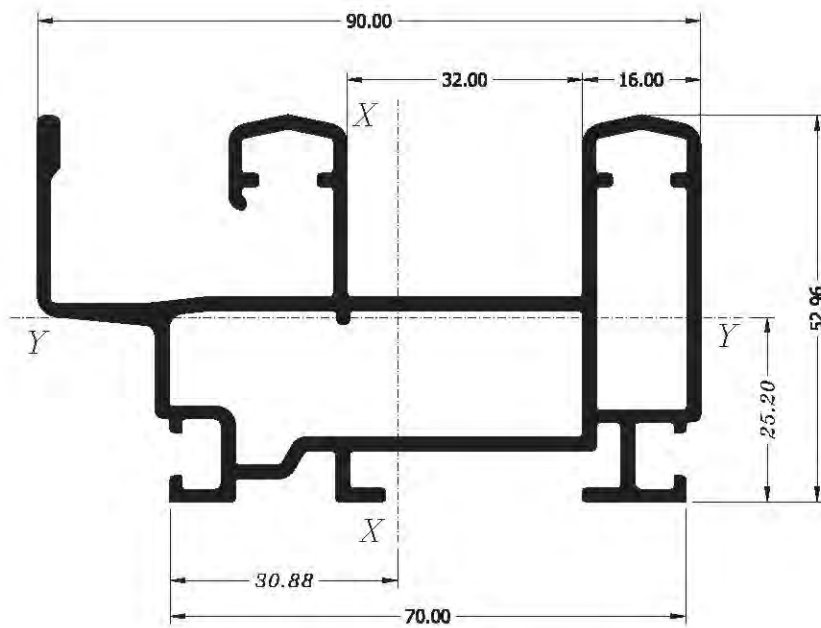
J 1042



J 1043

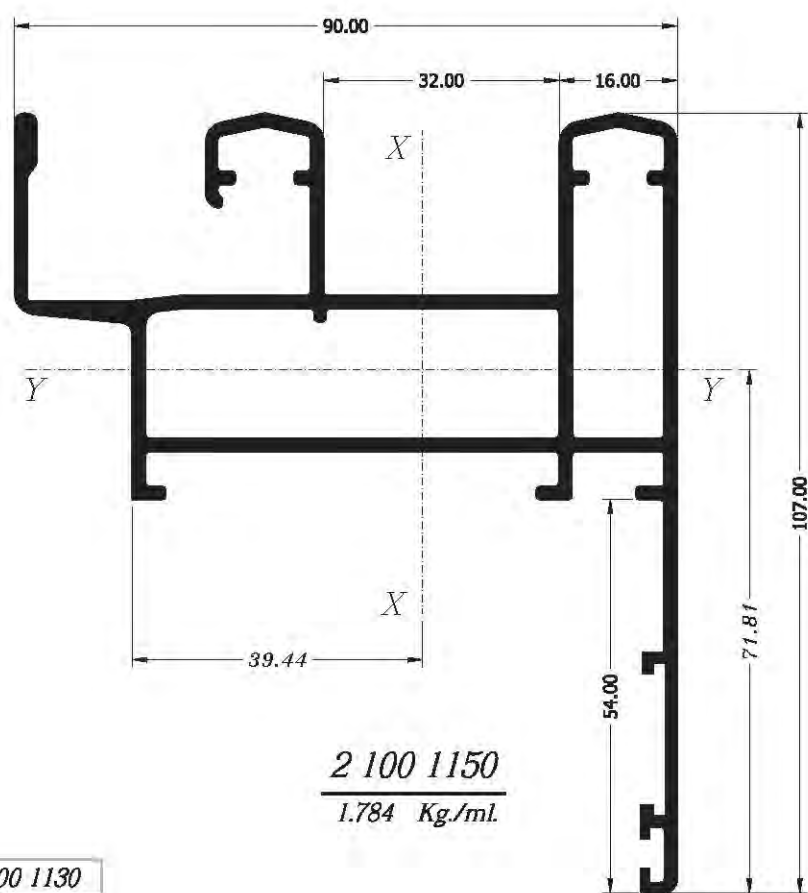
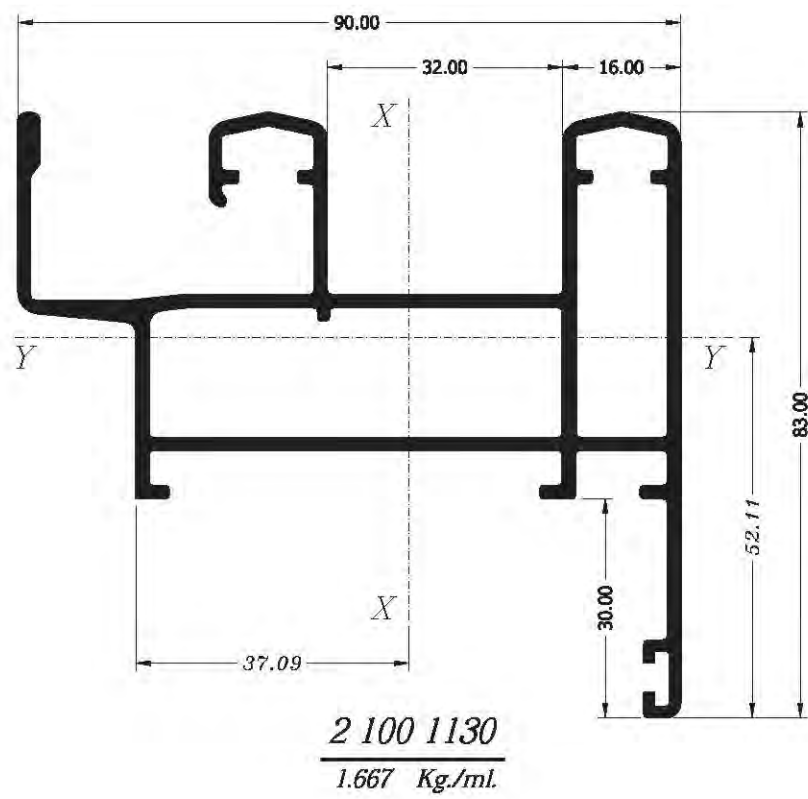


2 100 1020
1.504 Kg./ml.

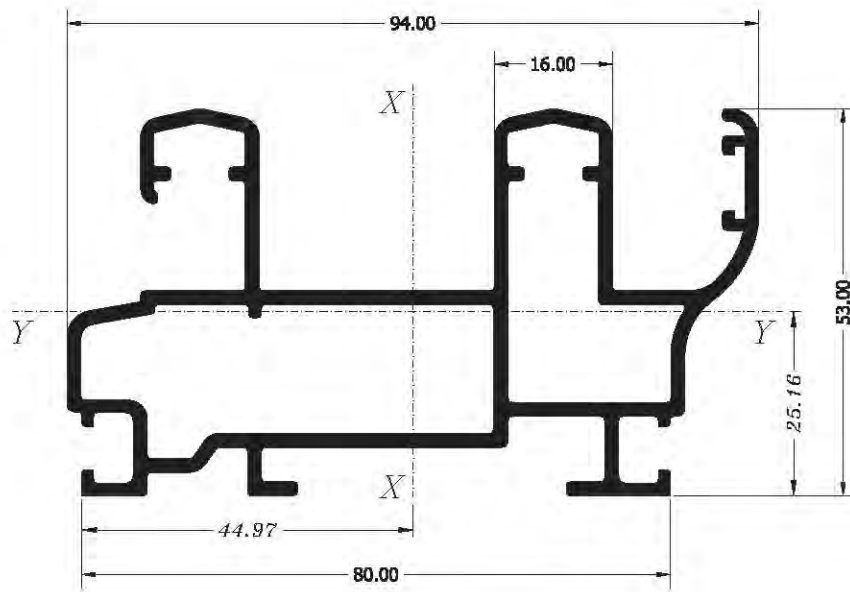


2 100 1120
1.768 Kg./ml.

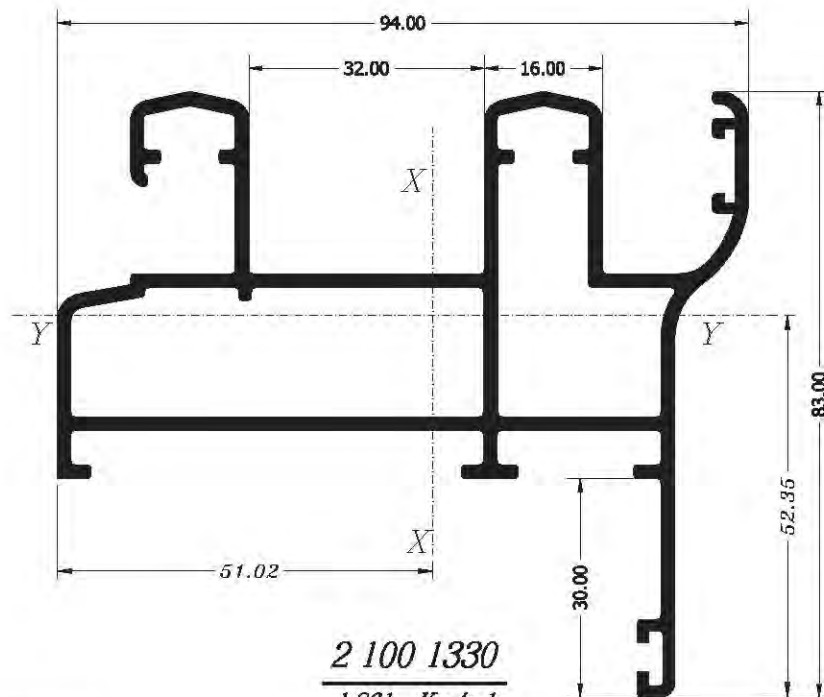
Profile No.	2 100 1020
Profile Old No.	J 1027



Profile No.	2 100 1130
Profile Old No.	J 1013

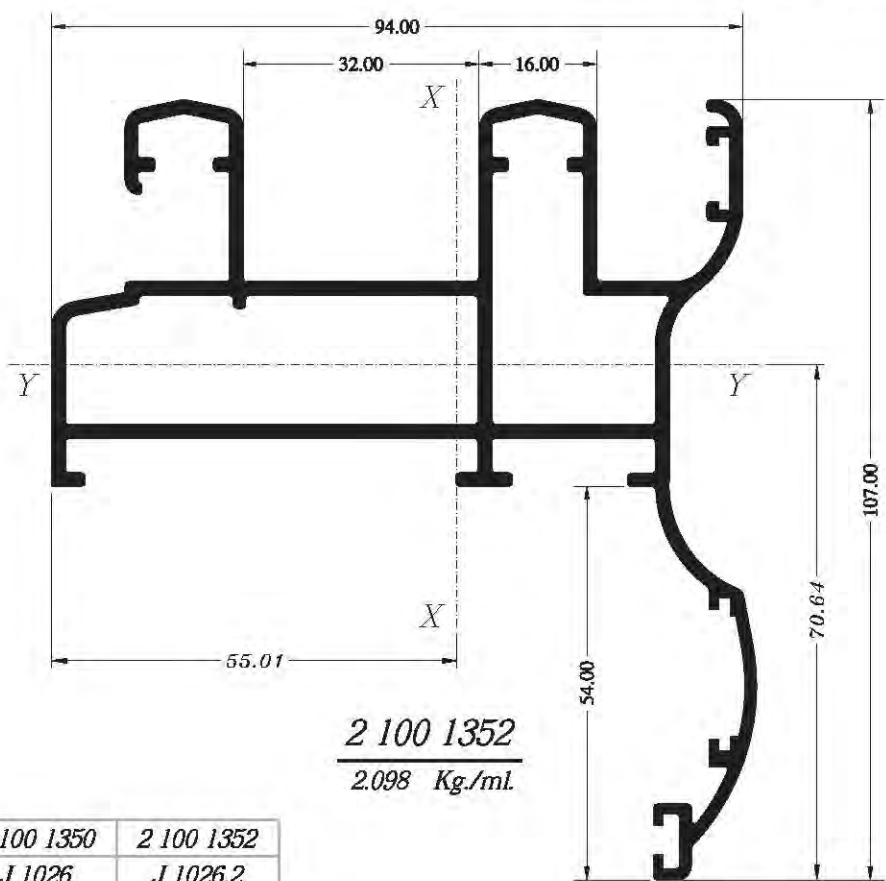
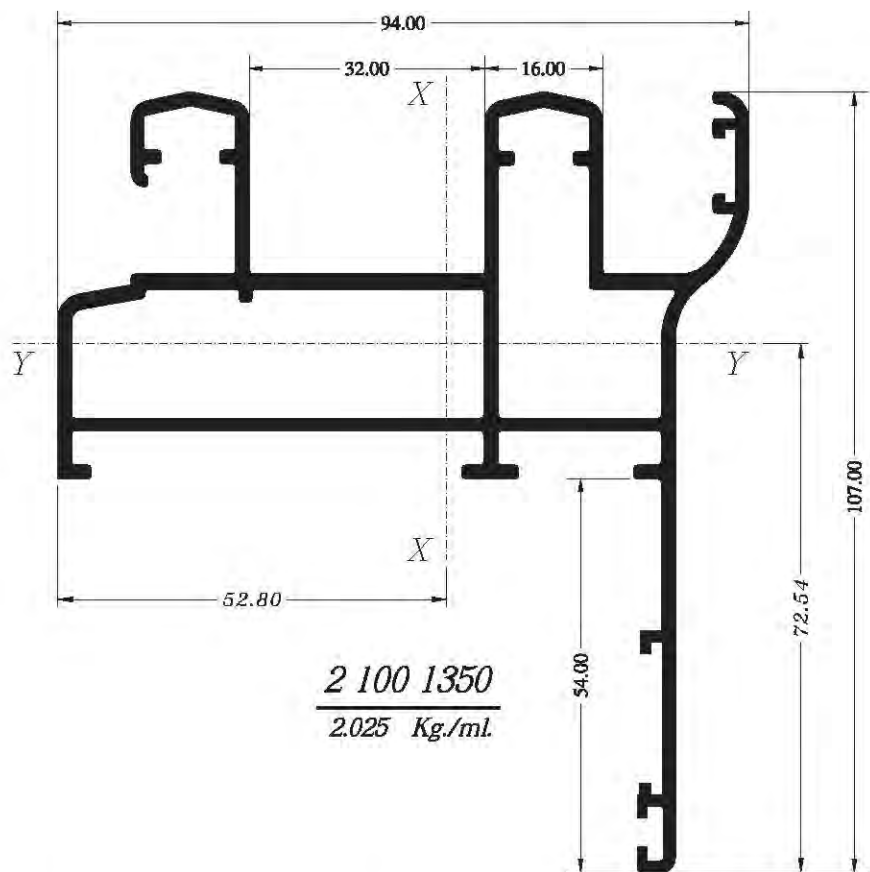


2 100 1320
1.793 Kg./ml.

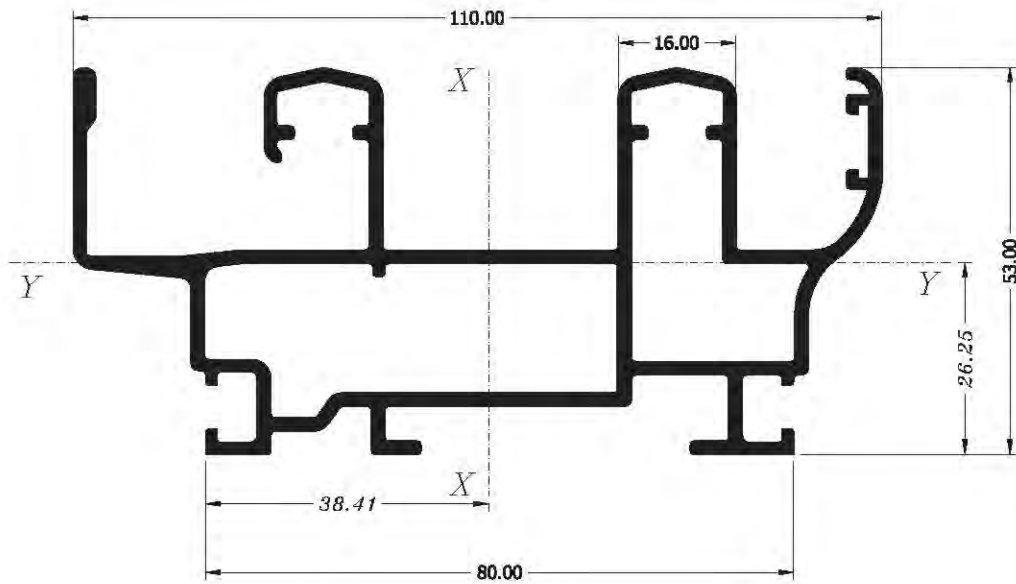


2 100 1330
1.861 Kg./ml.

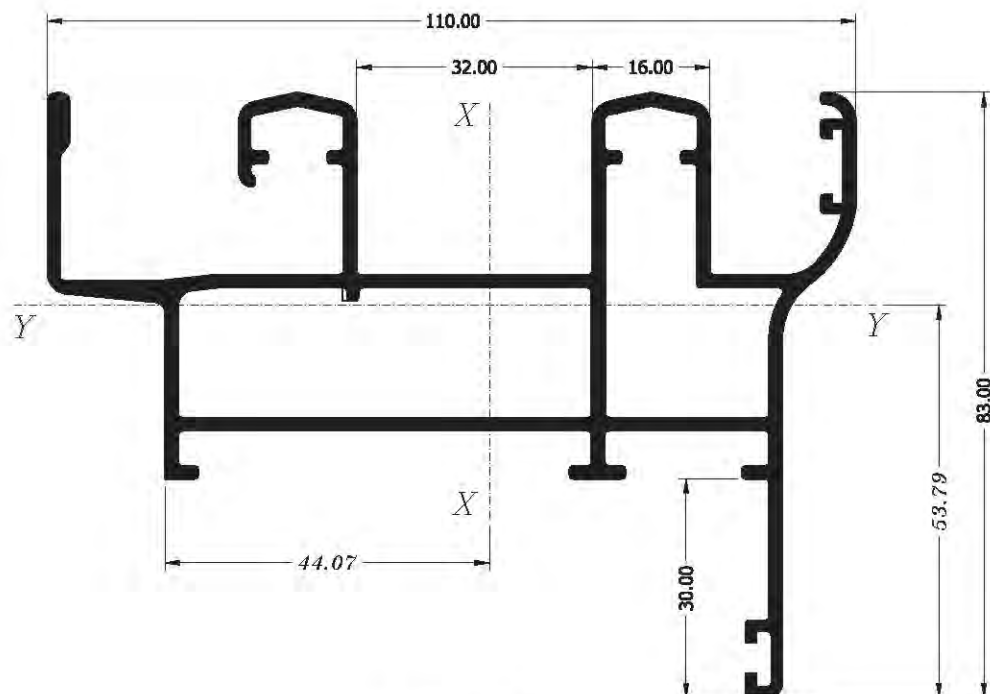
Profile No.	2 100 1320
Profile Old No.	J 1028



Profile No.	2 100 1350	2 100 1352
Profile Old No.	J 1026	J 1026.2

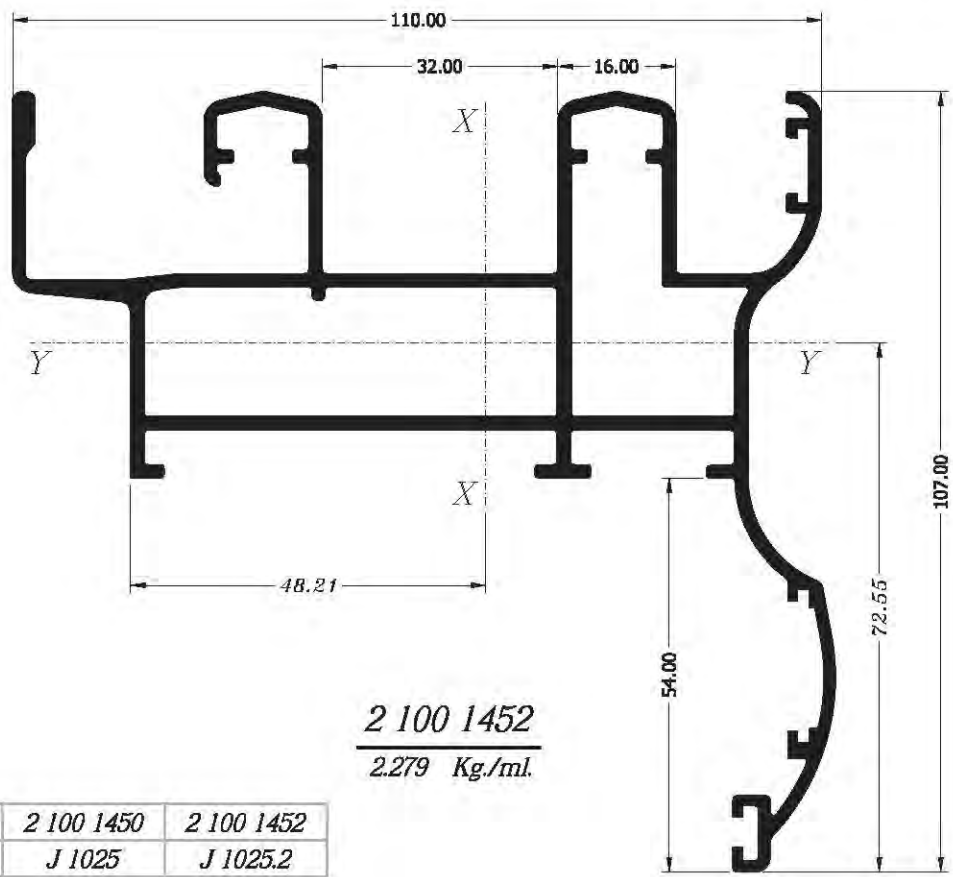
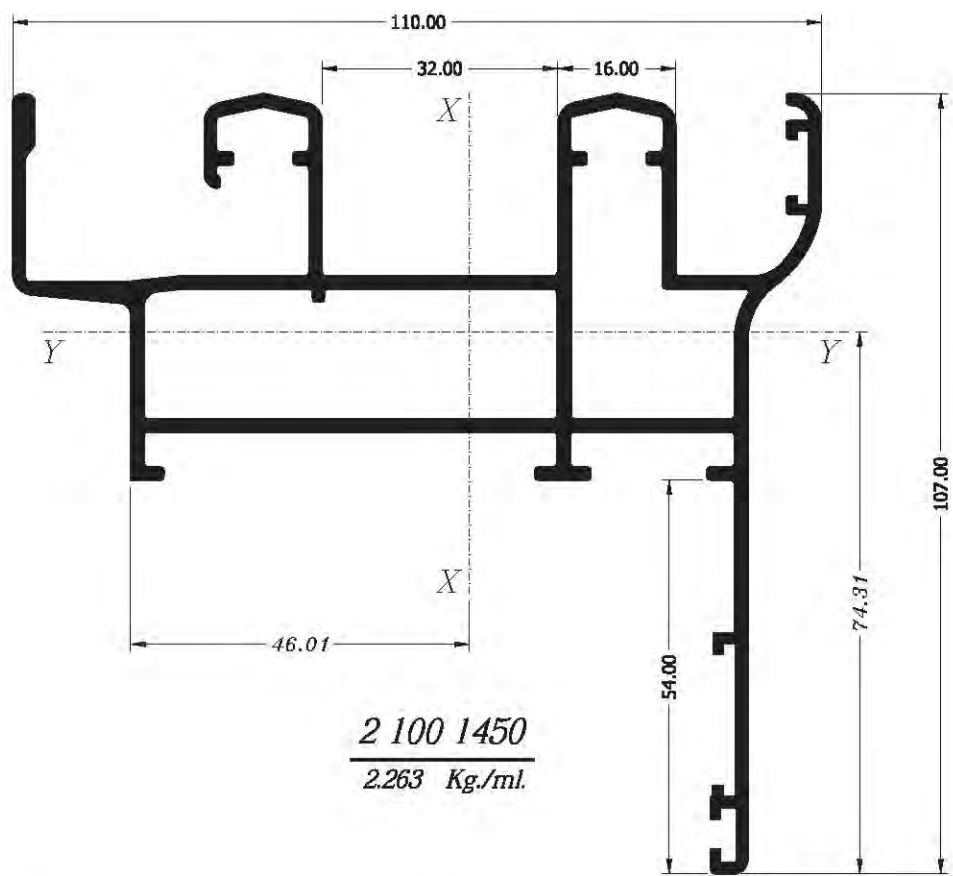


2 100 1420
2.013 Kg./ml.

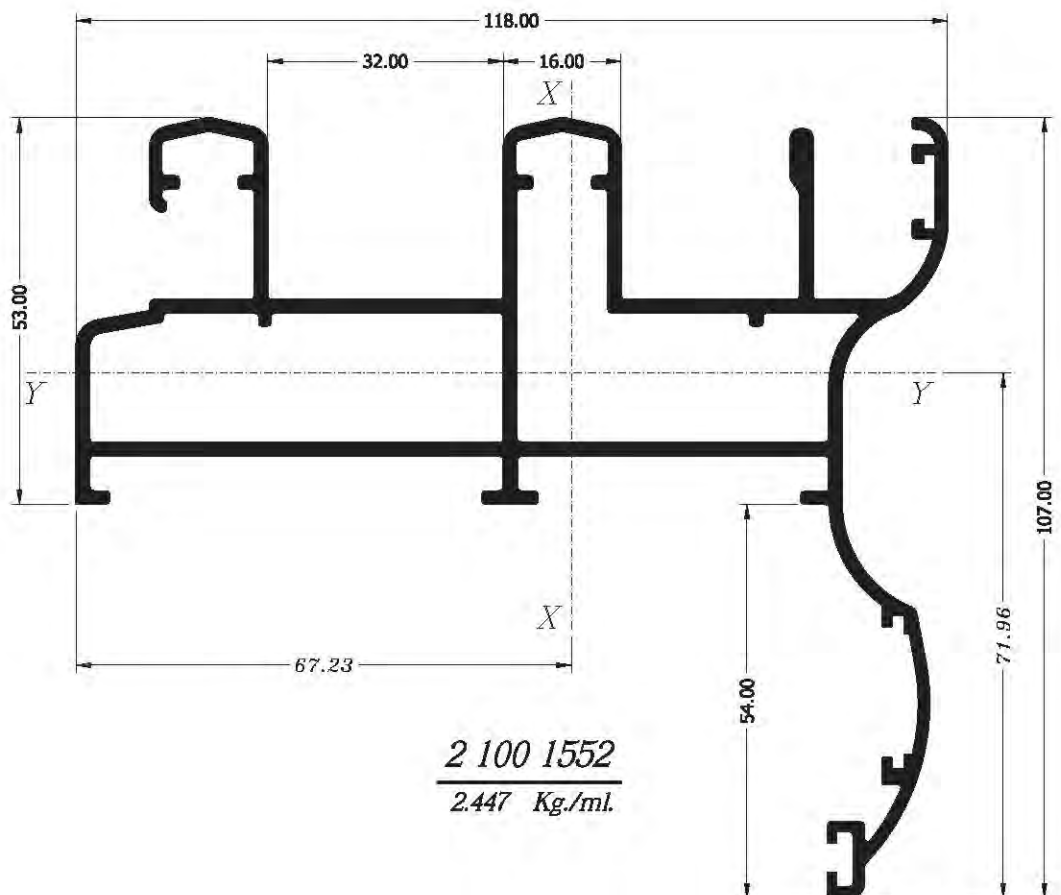
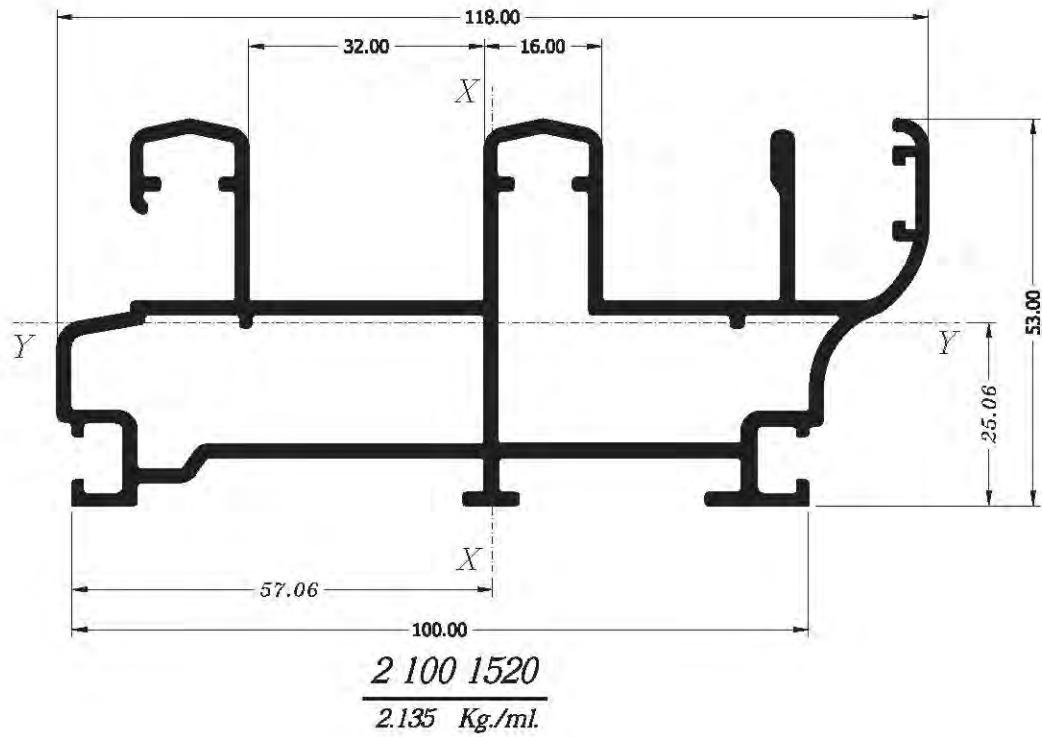


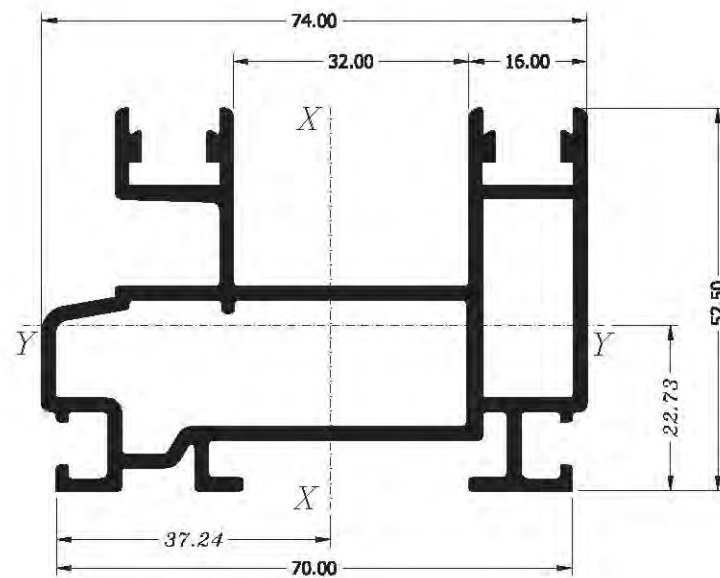
2 100 1430
2.094 Kg./ml.

Profile No.	2 100 1420
Profile Old No.	J 1031

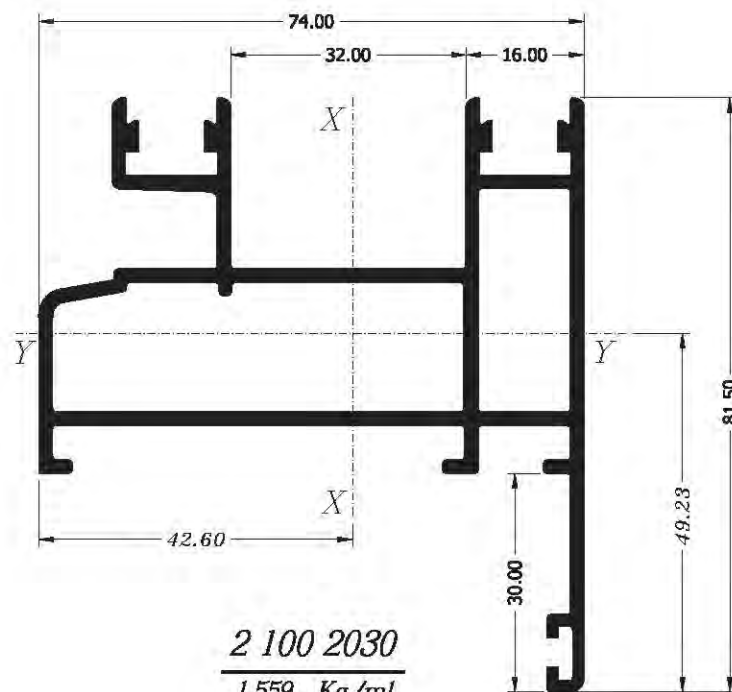


Profile No.	2 100 1450	2 100 1452
Profile Old No.	J 1025	J 1025.2



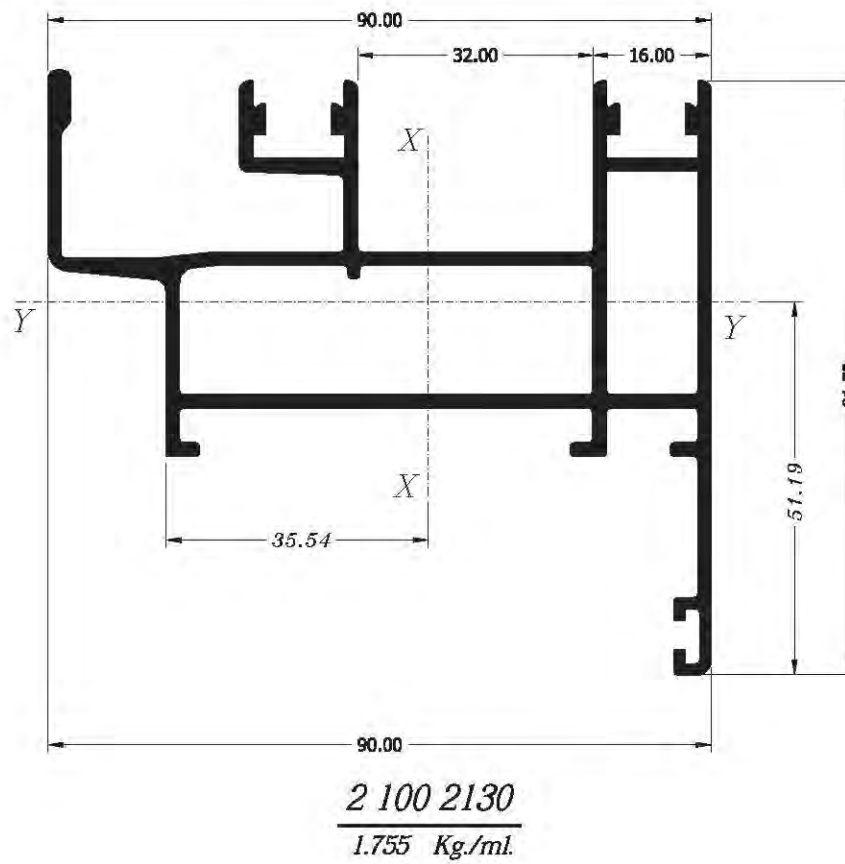
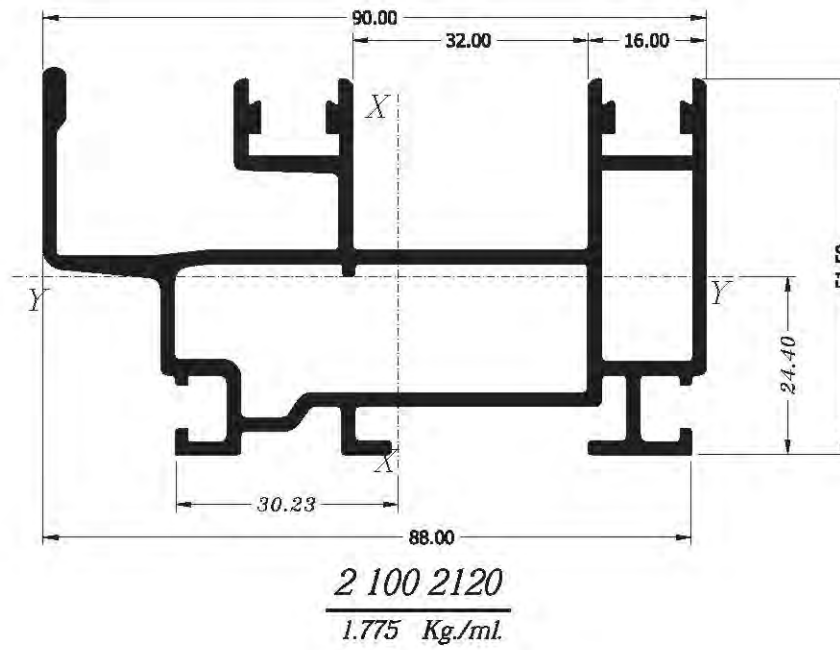


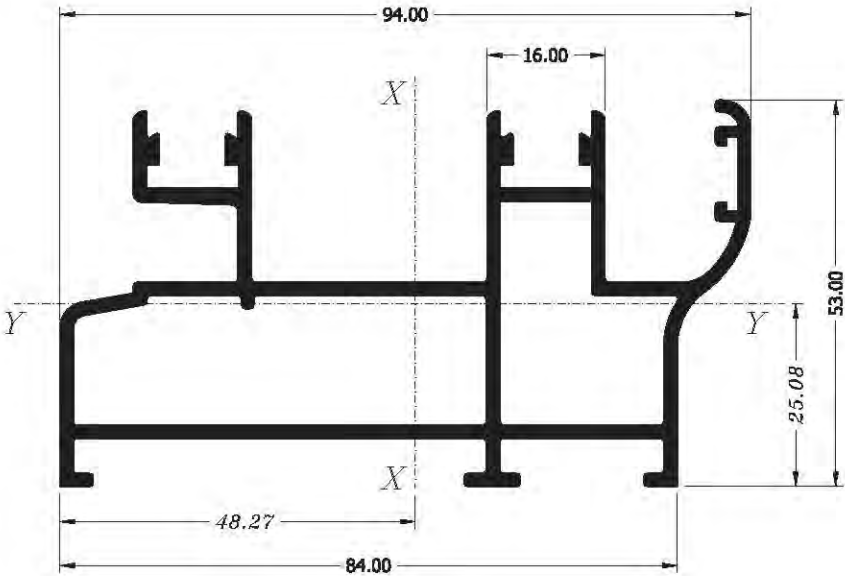
2 100 2020
1.527 Kg./ml.



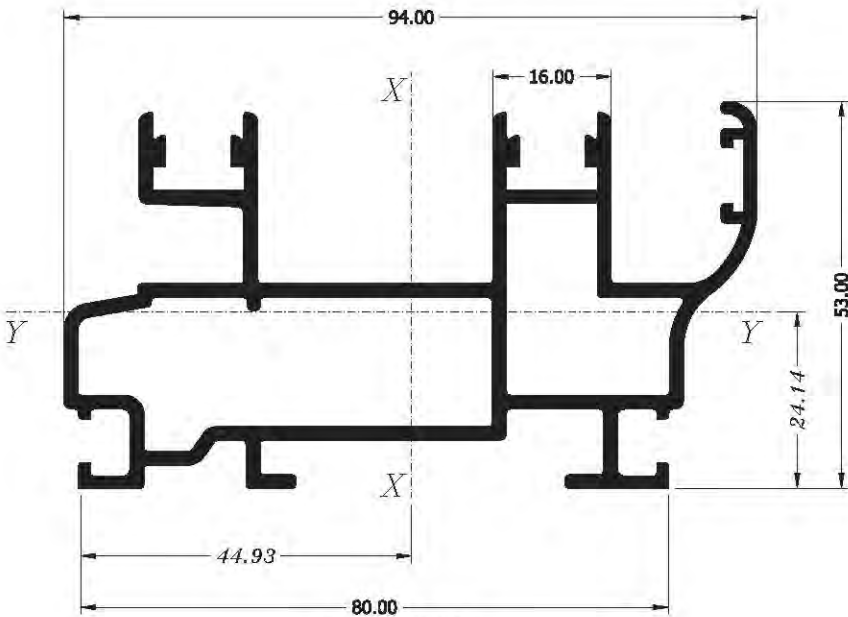
2 100 2030
1.559 Kg./ml.

Profile No.	2 100 2030
Profile Old No.	J 1012



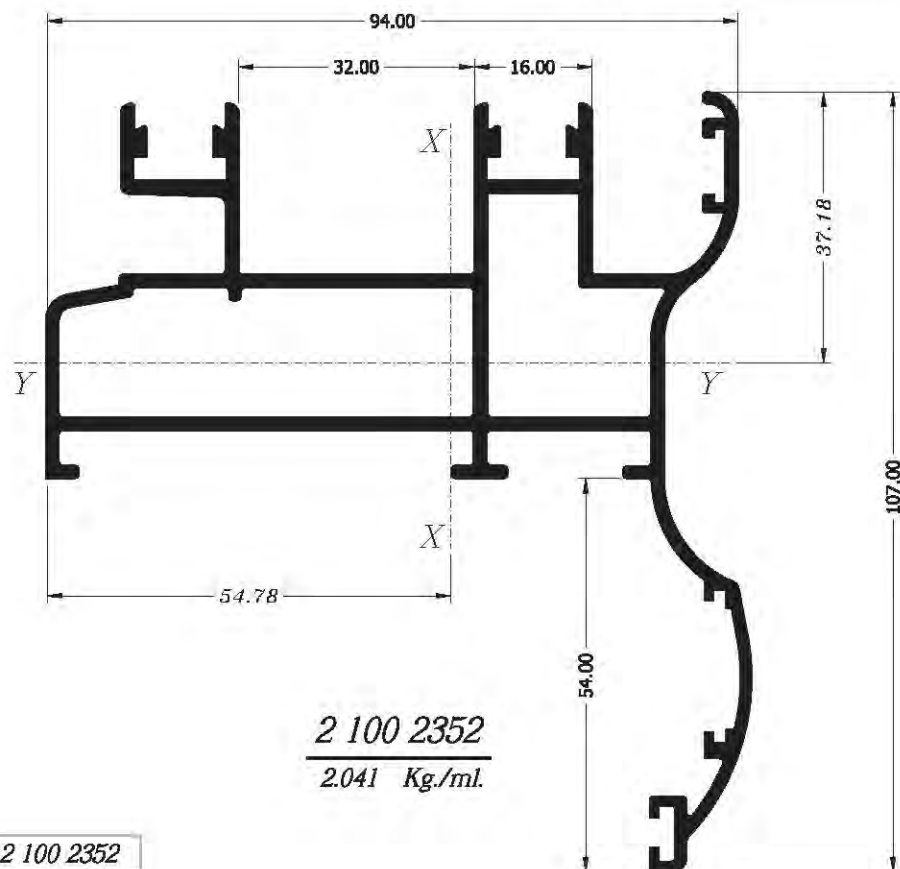
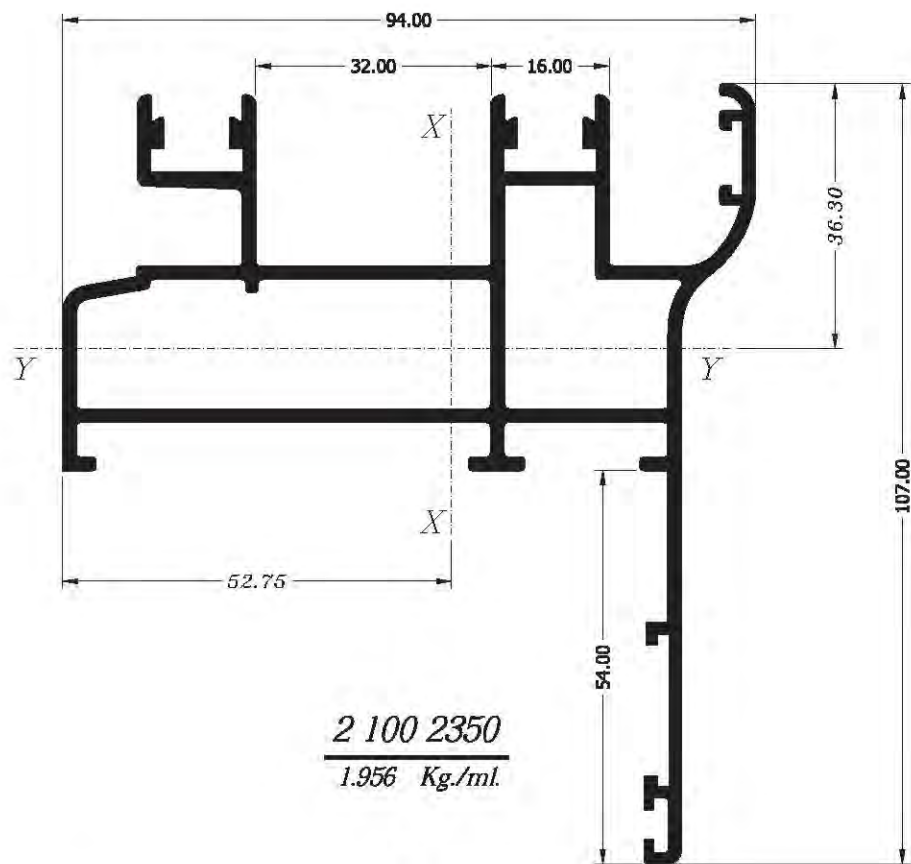


2 100 2300
1.646 Kg./ml.

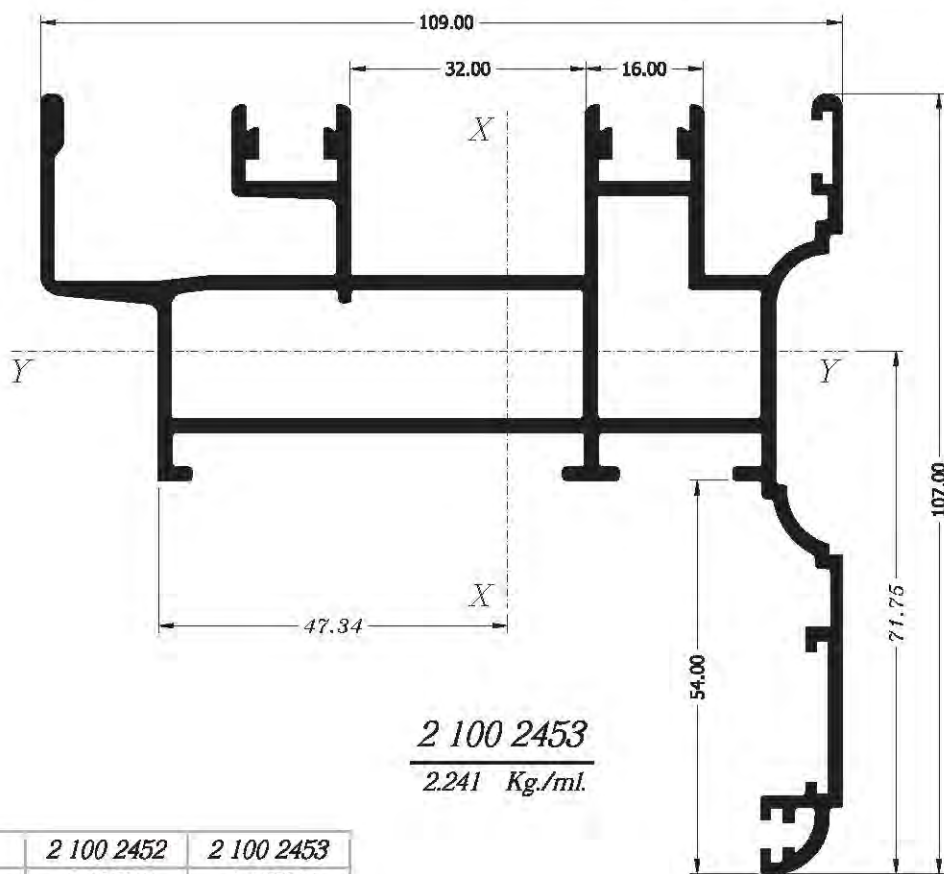
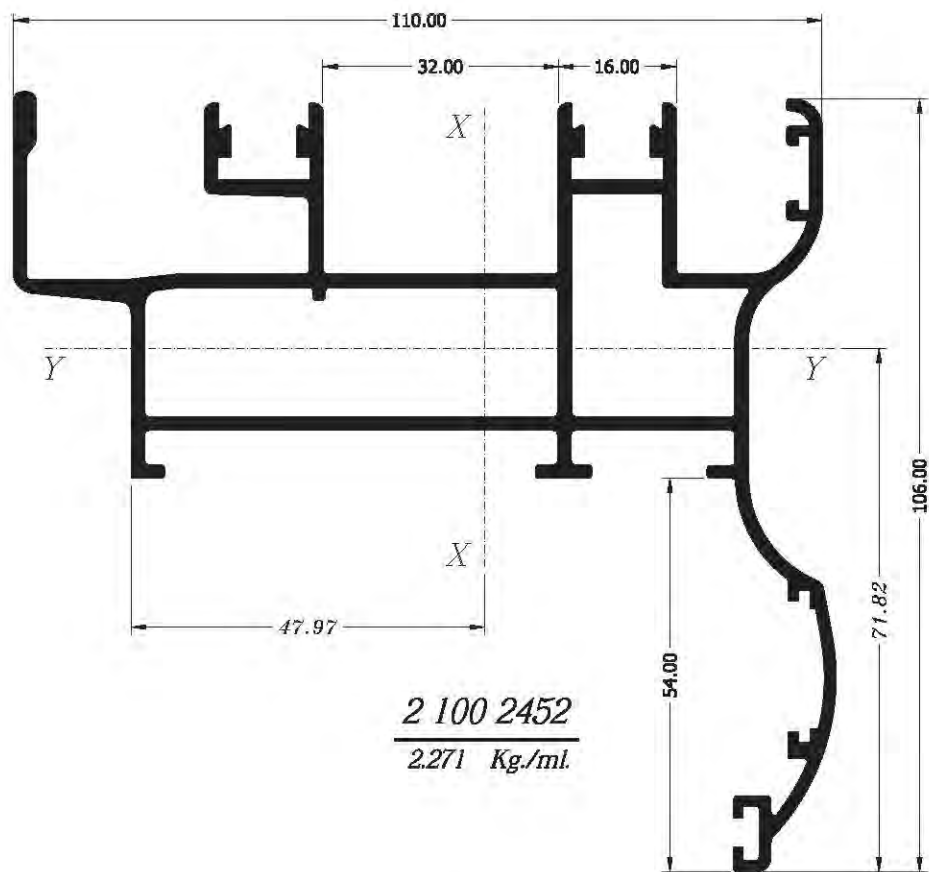


2 100 2320
1.772 Kg./ml.

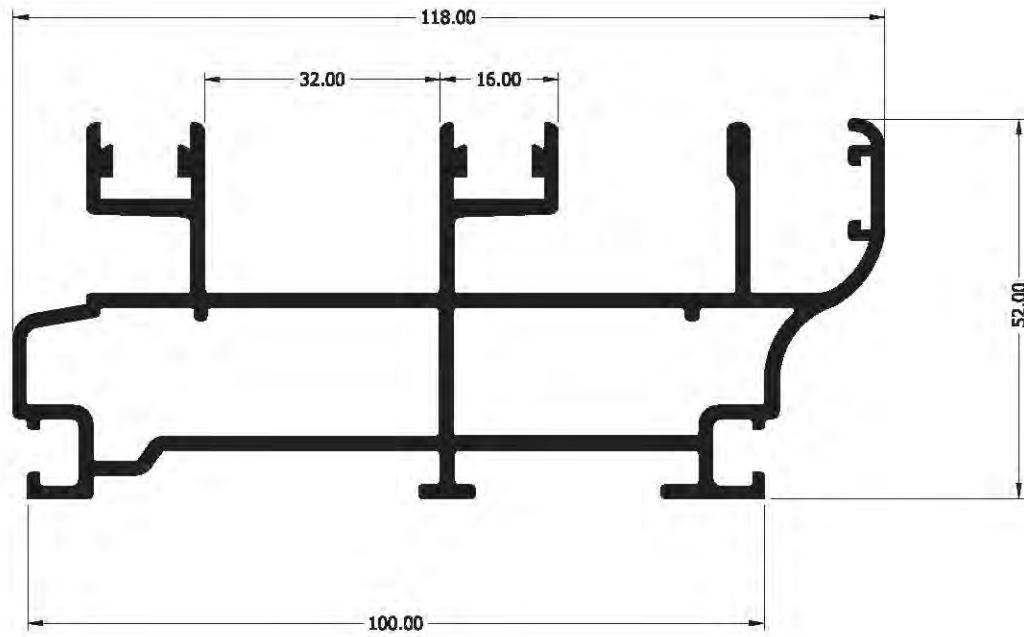
Profile No.	2 100 2320
Profile Old No.	J 1038



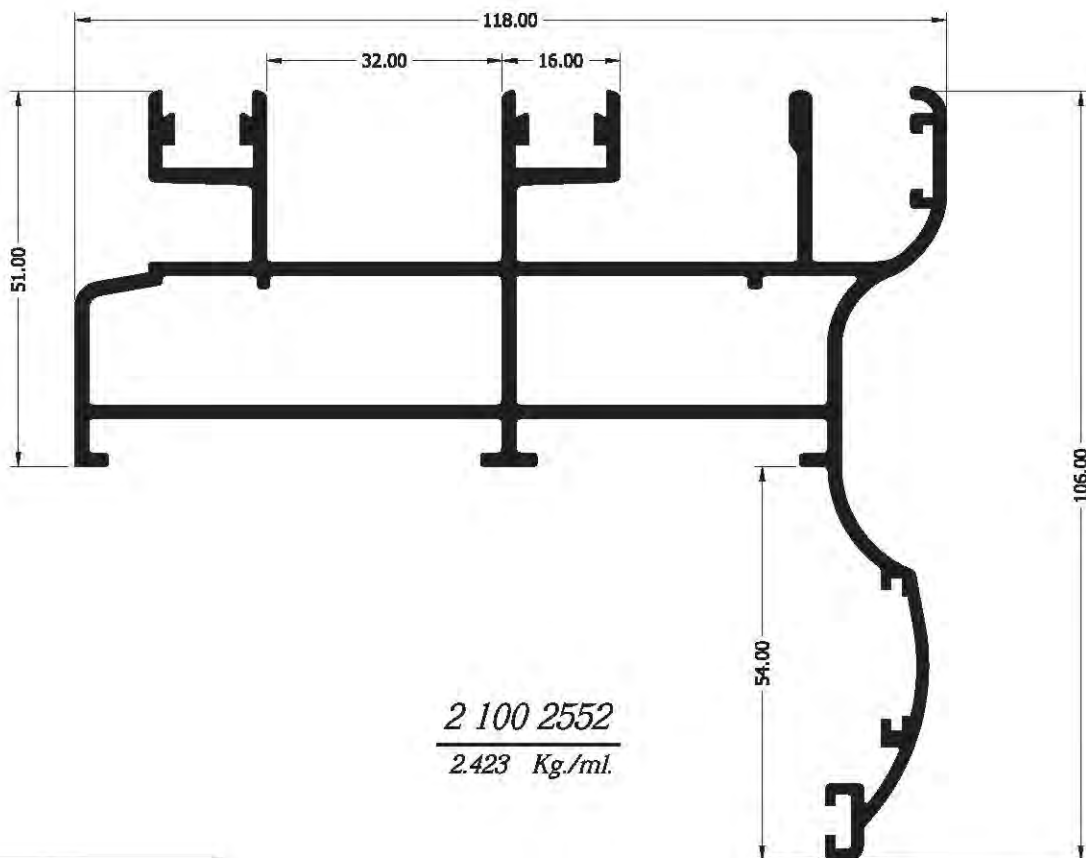
Profile No.	2 100 2352
Profile Old No.	J 1037.2



Profile No.	2 100 2452	2 100 2453
Profile Old No.	J 1035.2	J 1035.3

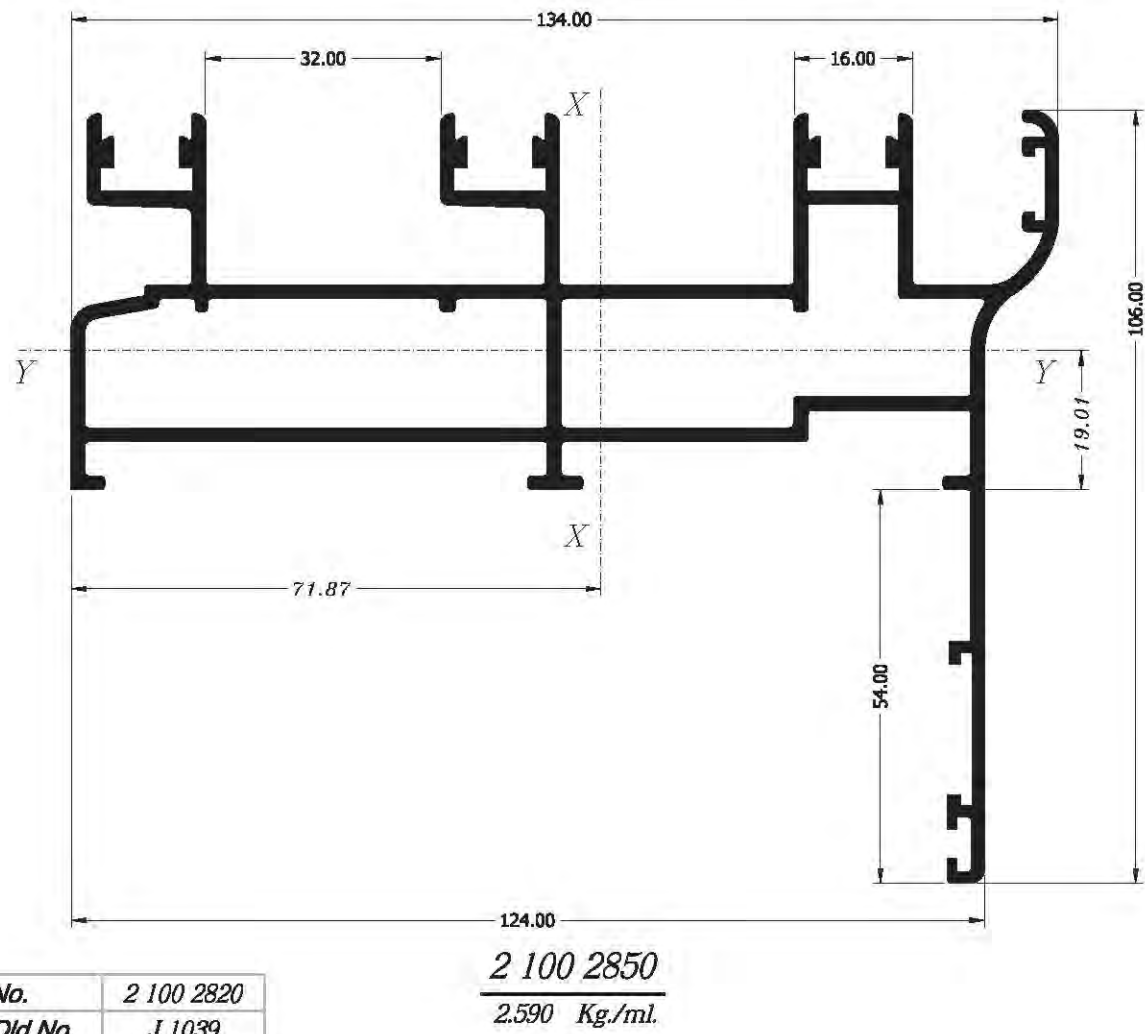
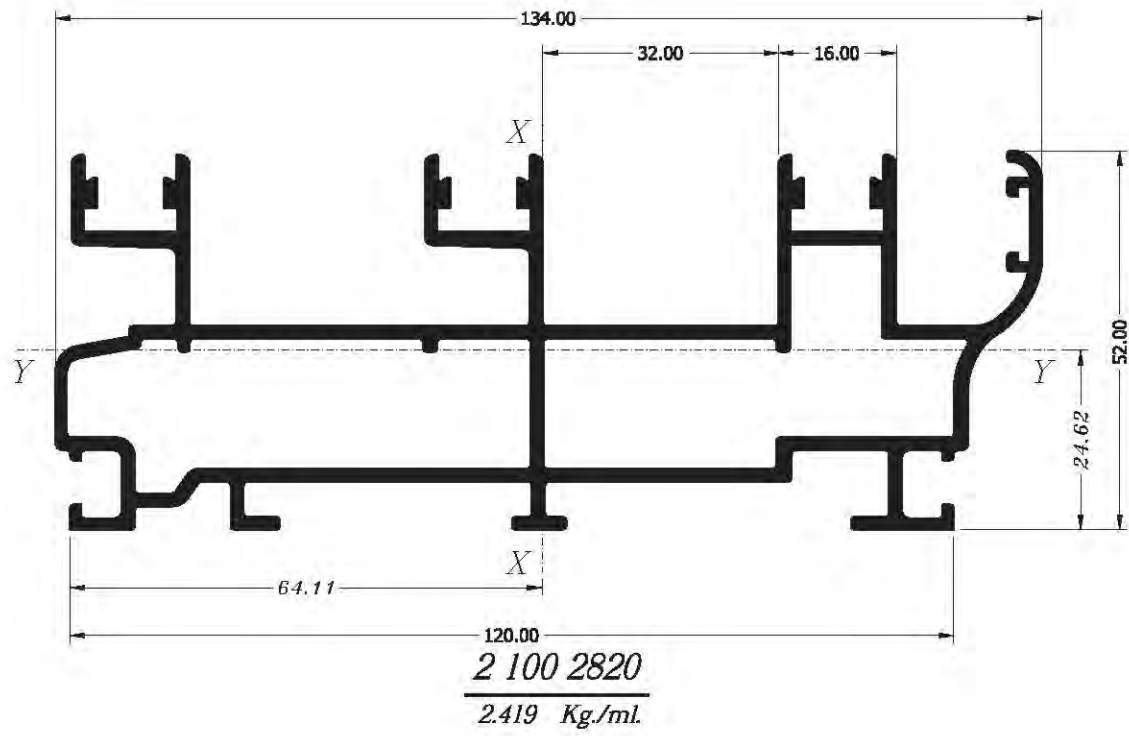


2 100 2520
2.147 Kg./ml.

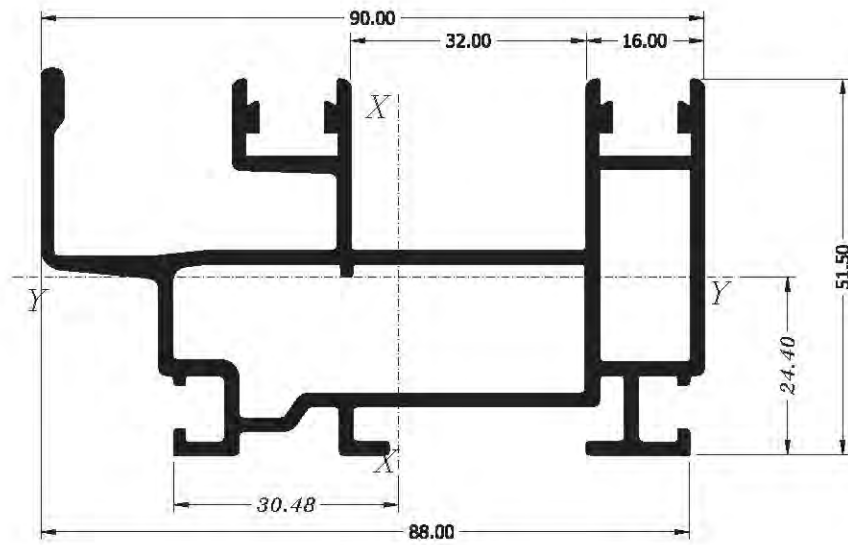


2 100 2552
2.423 Kg./ml.

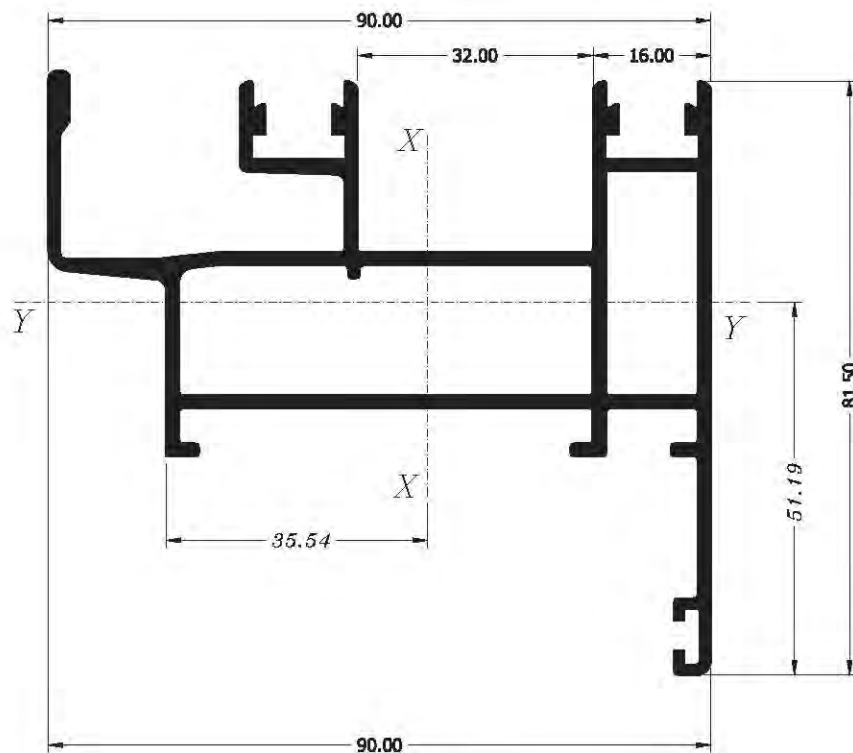
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Profile Old No.	J 1029



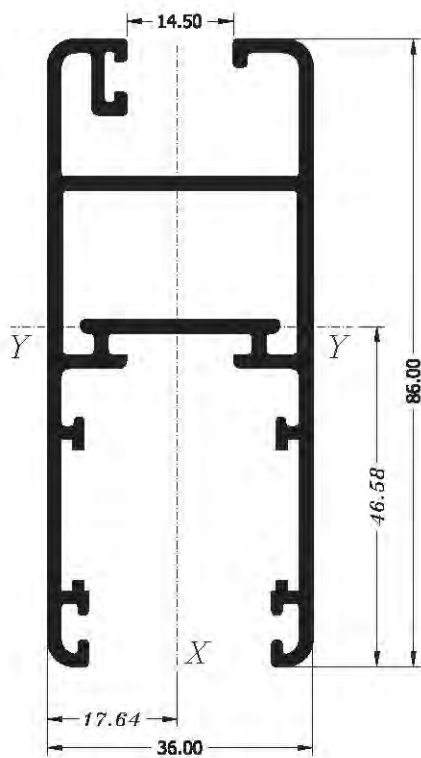
Profile No.	2 100 2820
Profile Old No.	J 1039



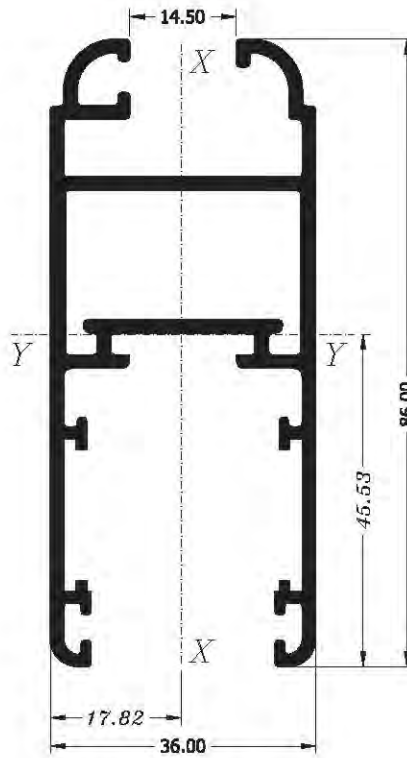
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1.775 Kg./ml.



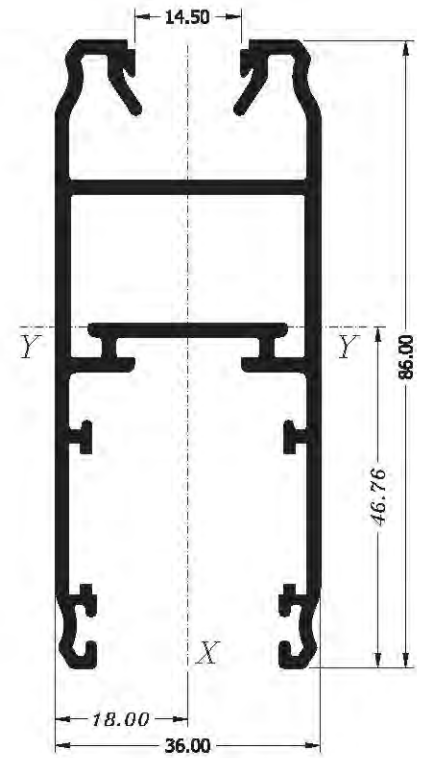
2 100 2130
1.755 Kg./ml.



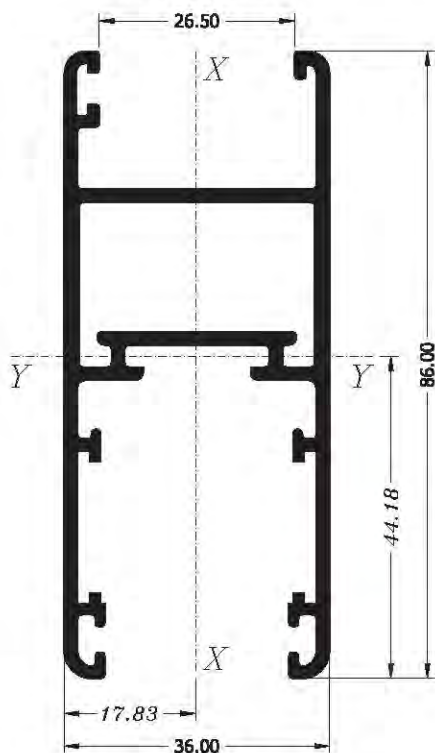
2 100 4110
1.415 Kg./ml.



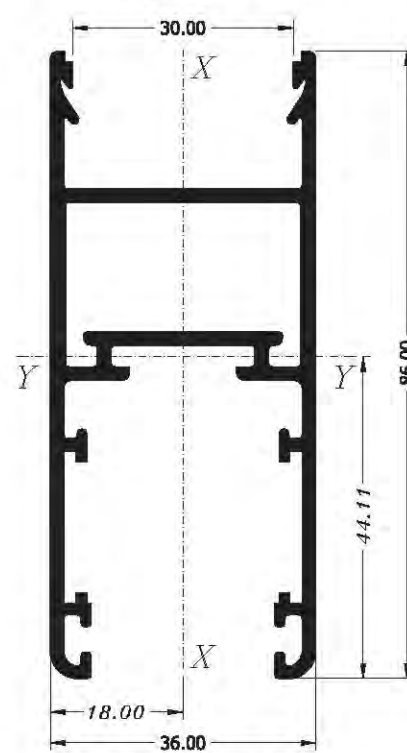
2 100 4113
1.339 Kg./ml.



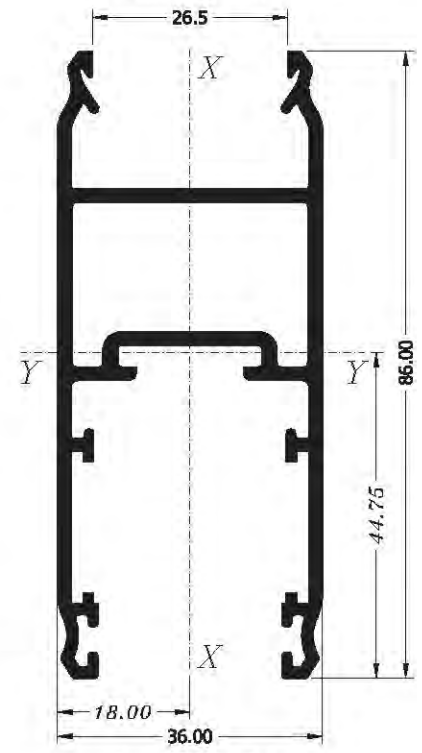
2 100 4214
1.346 Kg./ml.



2 100 4120
1.318 Kg./ml.

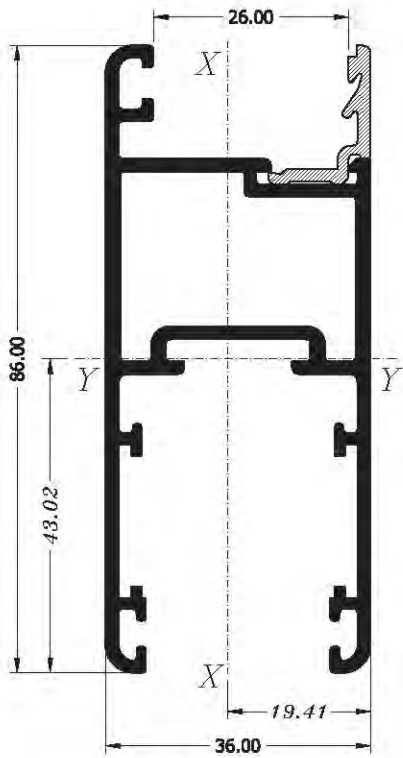


2 100 4220
1.292 Kg./ml.



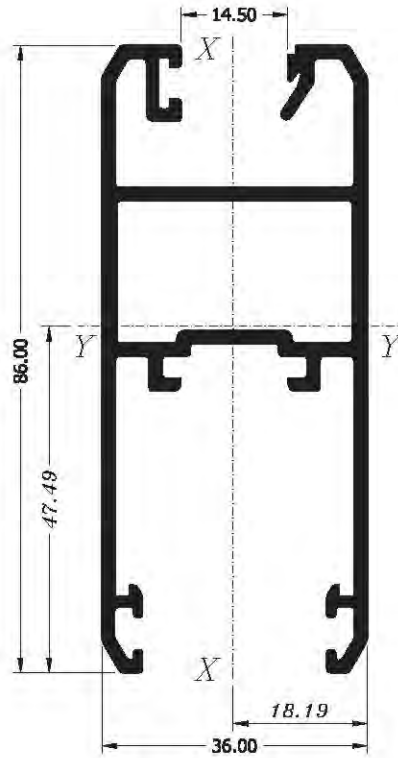
2 100 4224
1.265 Kg./ml.

Profile No.	2 100 4110	2 100 4113	2 100 4120	2 100 4214	2 100 4220	2 100 4224
Profile Old No.	J 1040	J 1040.3	J 1042	J 1044	J 1043	J 1045



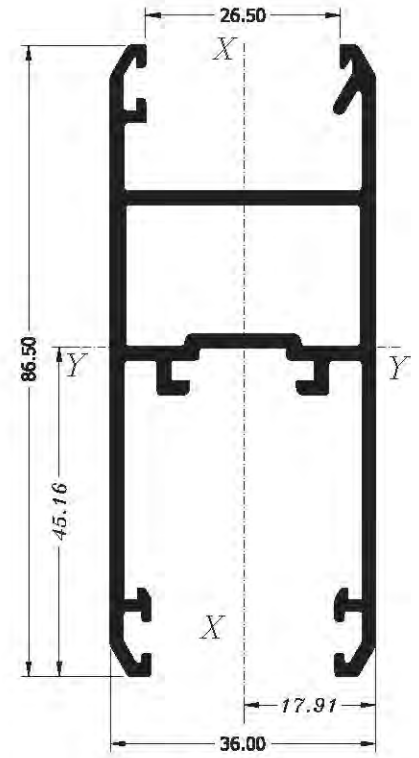
2 100 4141

1.253 Kg./ml.



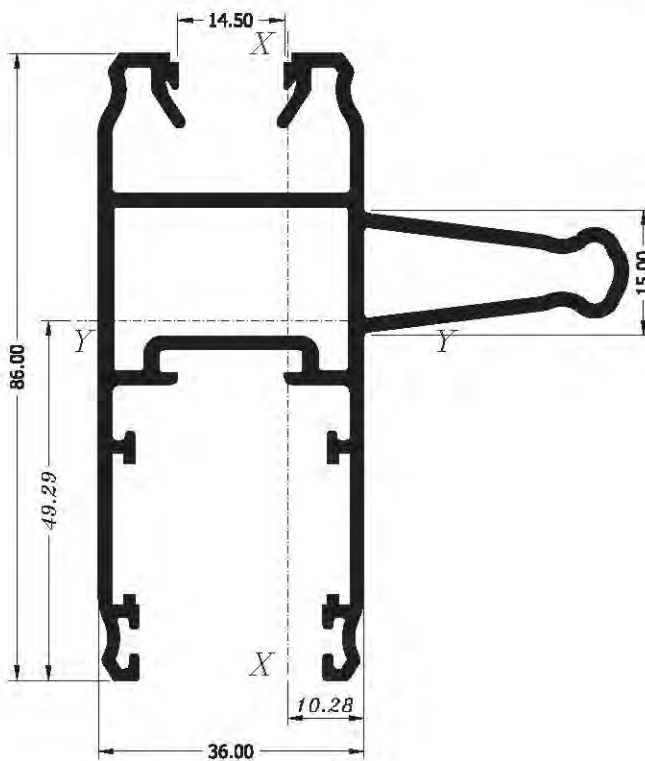
2 100 4518

1.440 Kg./ml.



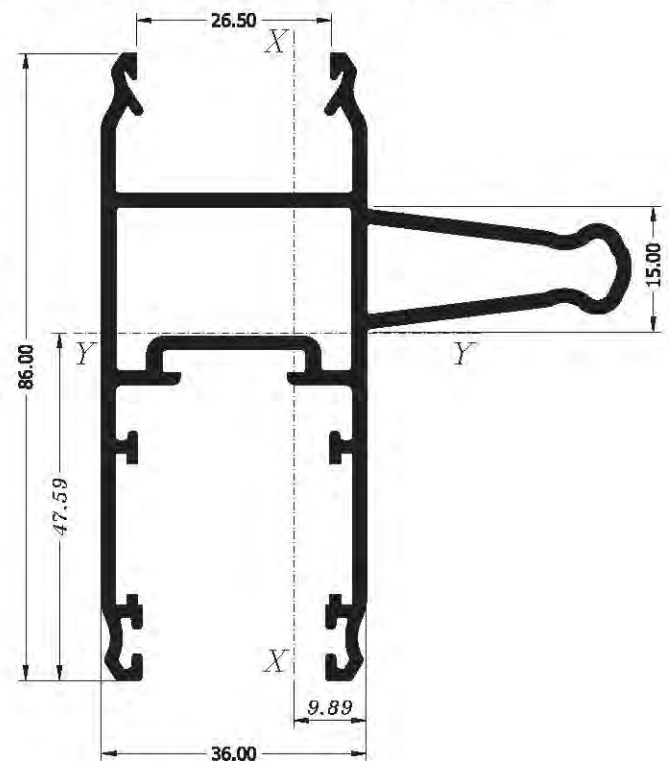
2 100 4528

1.334 Kg./ml.



2 100 4414

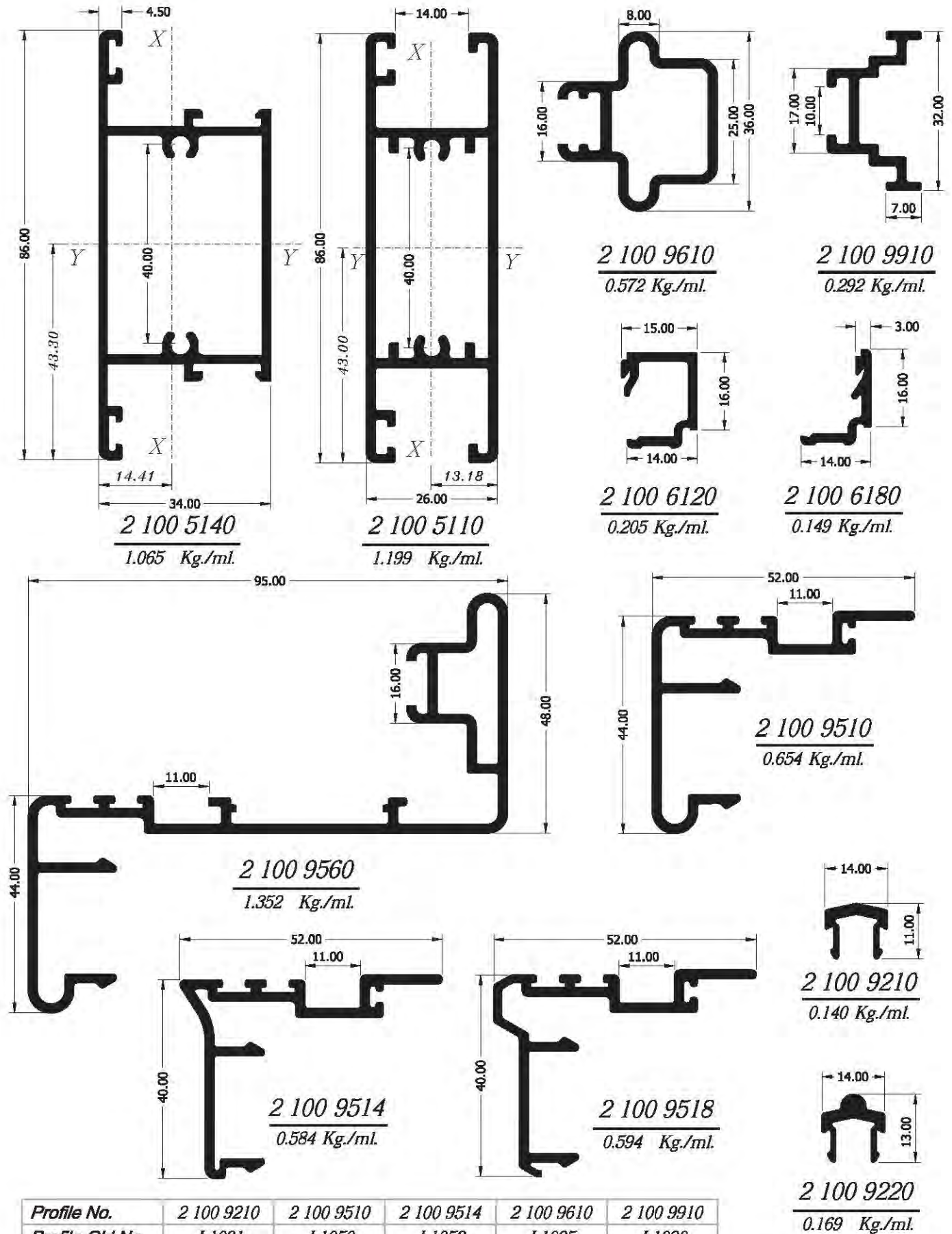
1.694 Kg./ml.

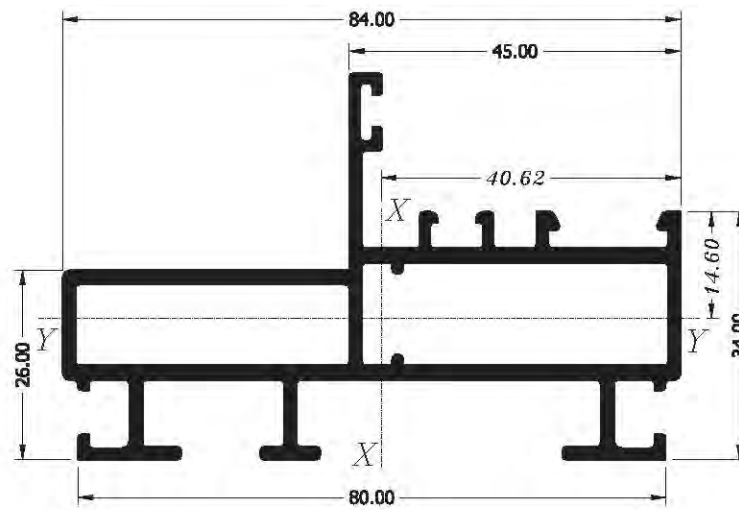


2 100 4424

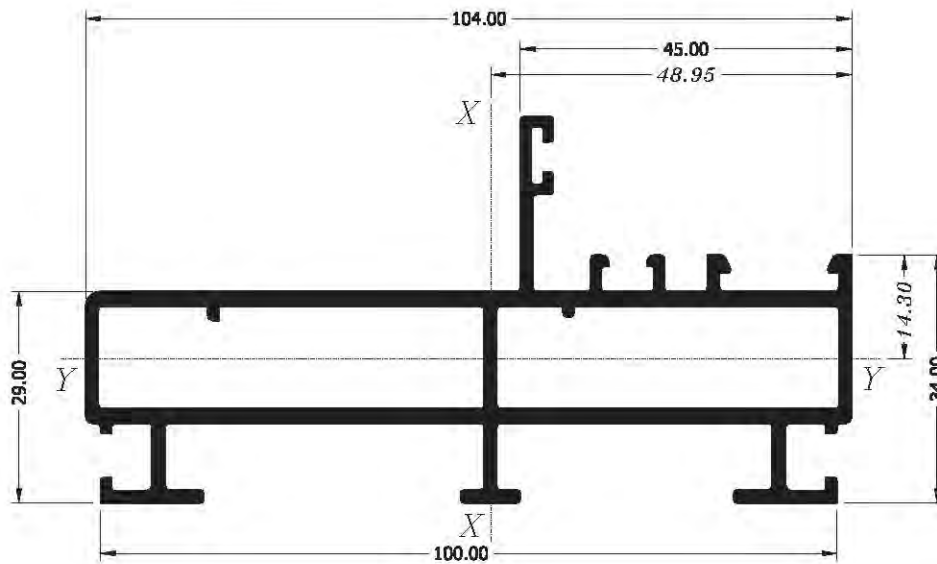
1.613 Kg./ml.

Profile No.	2 100 4424	2 100 4141	2 100 5140
Profile Old No.	J 1045.1	J 1048	J 1078

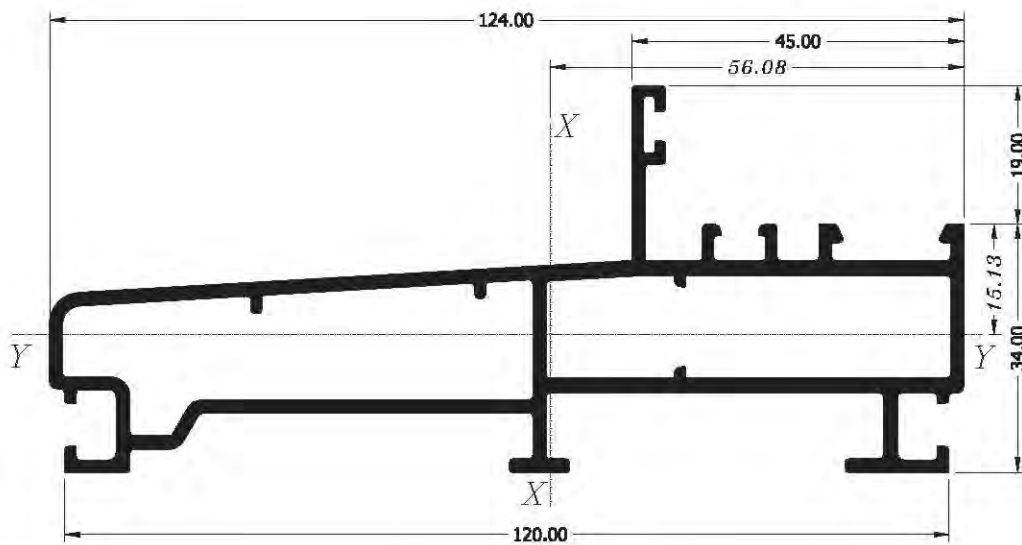




1 045 2082
1.345 Kg./ml.

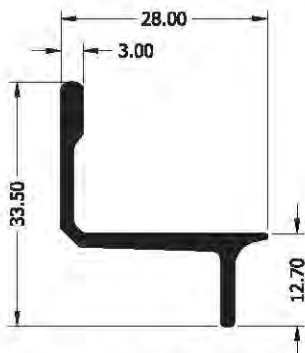


1 045 2102
1.539 Kg./ml.

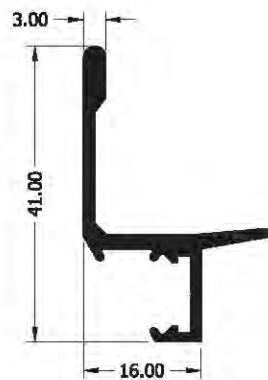


1 045 2122
1.612 Kg./ml.

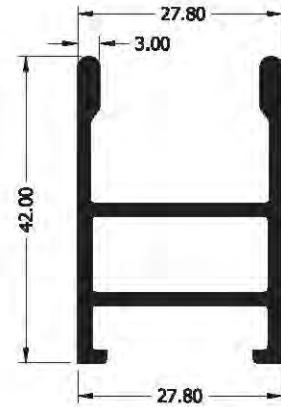
Profile No.	1 045 2082	1 045 2102	1 045 2122
Profile Old No.	SH 8045	SH 8096	SH 8093



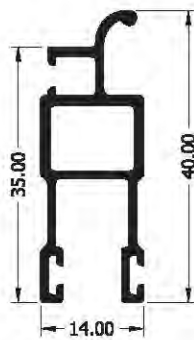
5 025 1060
0.319 Kg./ml.



5 025 1110
0.351 Kg./ml.



5 025 2110
0.583 Kg./ml.



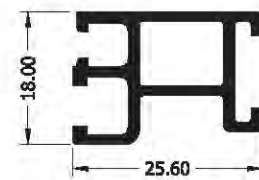
5 020 4210
0.313 Kg./ml.



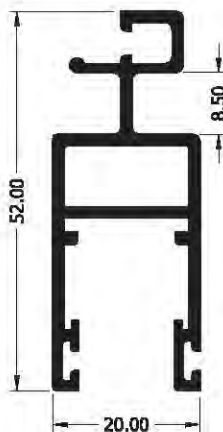
5 025 4100
0.419 Kg./ml.



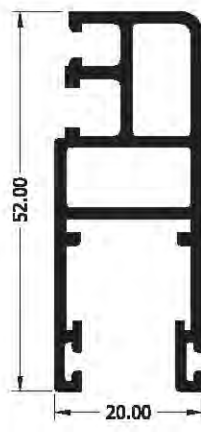
5 025 4140
0.567 Kg./ml.



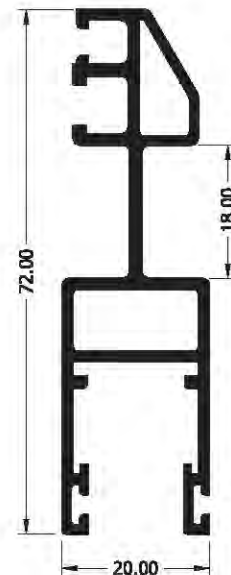
5 025 4830
0.307 Kg./ml.



5 025 4210
0.535 Kg./ml.



5 025 4240
0.594 Kg./ml.

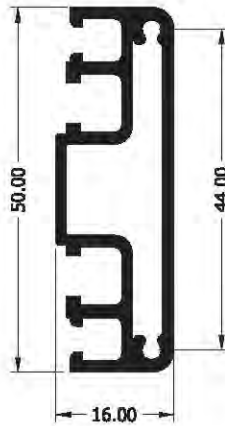


5 025 4230
0.725 Kg./ml.

Profile No.	5 025 1060	5 025 1110	5 025 2110	5 020 4210	5 025 4100	5 025 4140	5 025 4210
Profile Old No.	K 2206	K 2210	K 2202	K 2224	K 2222	K 2227	K 2223
	5 025 4240						
	K 2228						



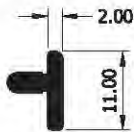
5 900 5020
0.385 Kg./ml.



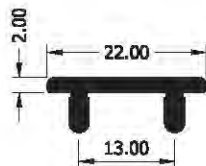
5 900 5410
0.610 Kg./ml.



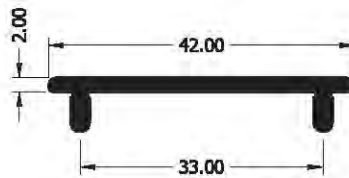
5 900 9100
0.100 Kg./ml.



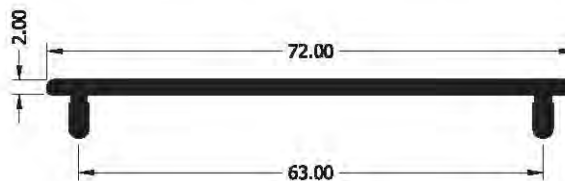
9 001 1100
0.092 Kg./ml.



9 002 1200
0.181 Kg./ml.

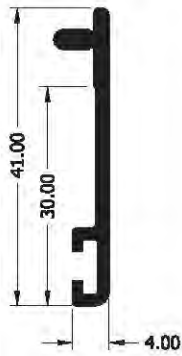


9 002 1220
0.289 Kg./ml.

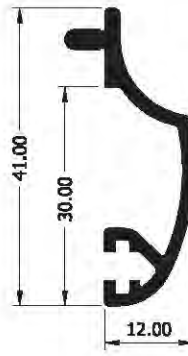


9 002 1700
0.378 Kg./ml.

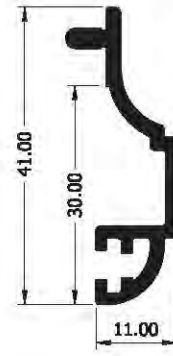
<i>Profile No.</i>	<i>5 900 5020</i>	<i>5 900 5410</i>	<i>5 900 9100</i>	<i>9 001 1100</i>	<i>9 002 1200</i>
<i>Profile Old No.</i>	<i>K 2251</i>	<i>K 2252</i>	<i>K 2281</i>	<i>SH 8081</i>	<i>SH 8087</i>



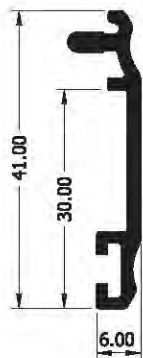
9 001 1300
0.240 Kg./ml.



9 001 1302
0.308 Kg./ml.



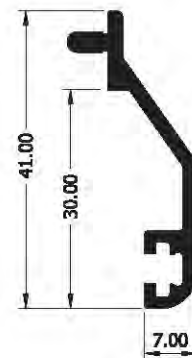
9 001 1303
0.284 Kg./ml.



9 001 1304
0.259 Kg./ml.

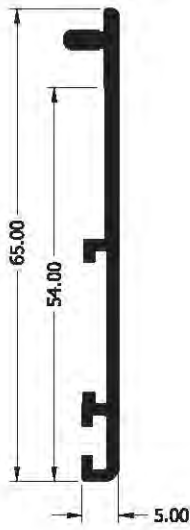


9 001 1305
0.263 Kg./ml.

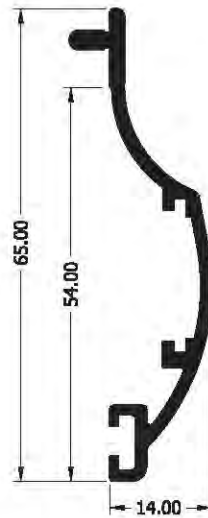


9 001 1308
0.289 Kg./ml.

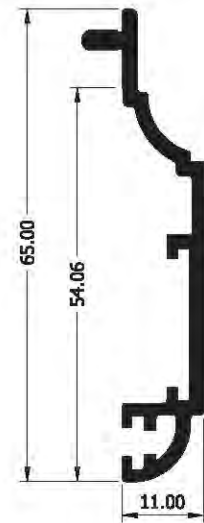
<i>Profile No.</i>	<i>9 001 1300</i>	<i>9 001 1302</i>	<i>9 001 1303</i>	<i>9 001 1304</i>	<i>9 001 1305</i>
<i>Profile Old No.</i>	<i>SH 8083</i>	<i>SH 8083.2</i>	<i>SH 8083.3</i>	<i>SH 8083.4</i>	<i>SH 8083.5</i>



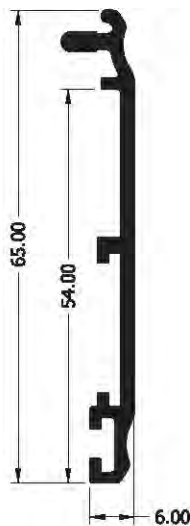
9 001 1500
0.348 Kg./ml.



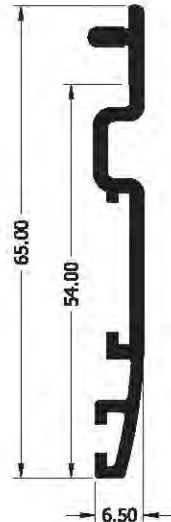
9 001 1502
0.424 Kg./ml.



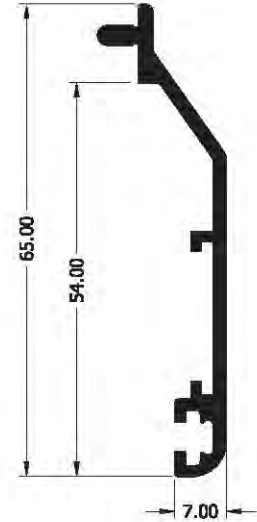
9 001 1503
0.403 Kg./ml.



9 001 1504
0.370 Kg./ml.

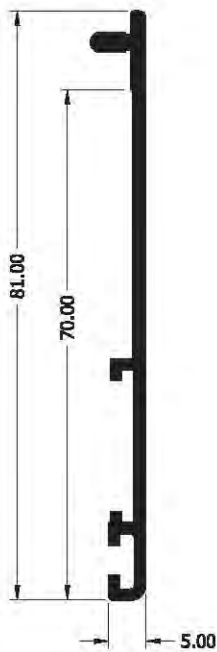


9 001 1505
0.383 Kg./ml.

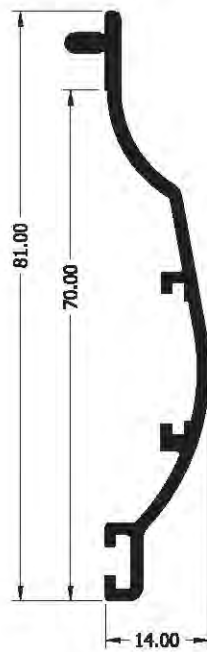


9 001 1508
0.402 Kg./ml.

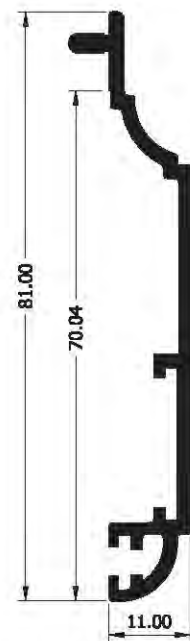
Profile No.	9 001 1500	9 001 1502	9 001 1503	9 001 1504	9 001 1505
Profile Old No.	SH 8085	SH 8085.2	SH 8085.3	SH 8085.4	SH 8085.5



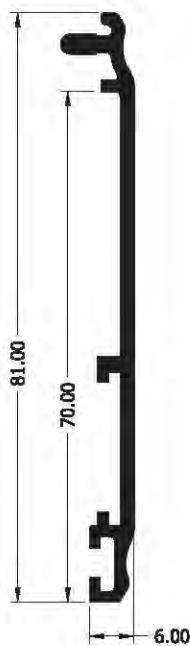
9 001 1700
0.418 Kg./ml.



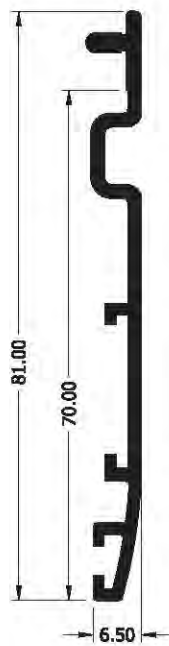
9 001 1702
0.473 Kg./ml.



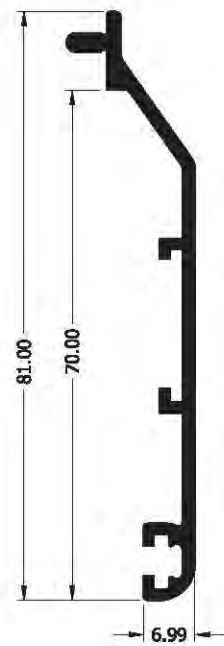
9 001 1703
0.403 Kg./ml.



9 001 1704
0.434 Kg./ml.

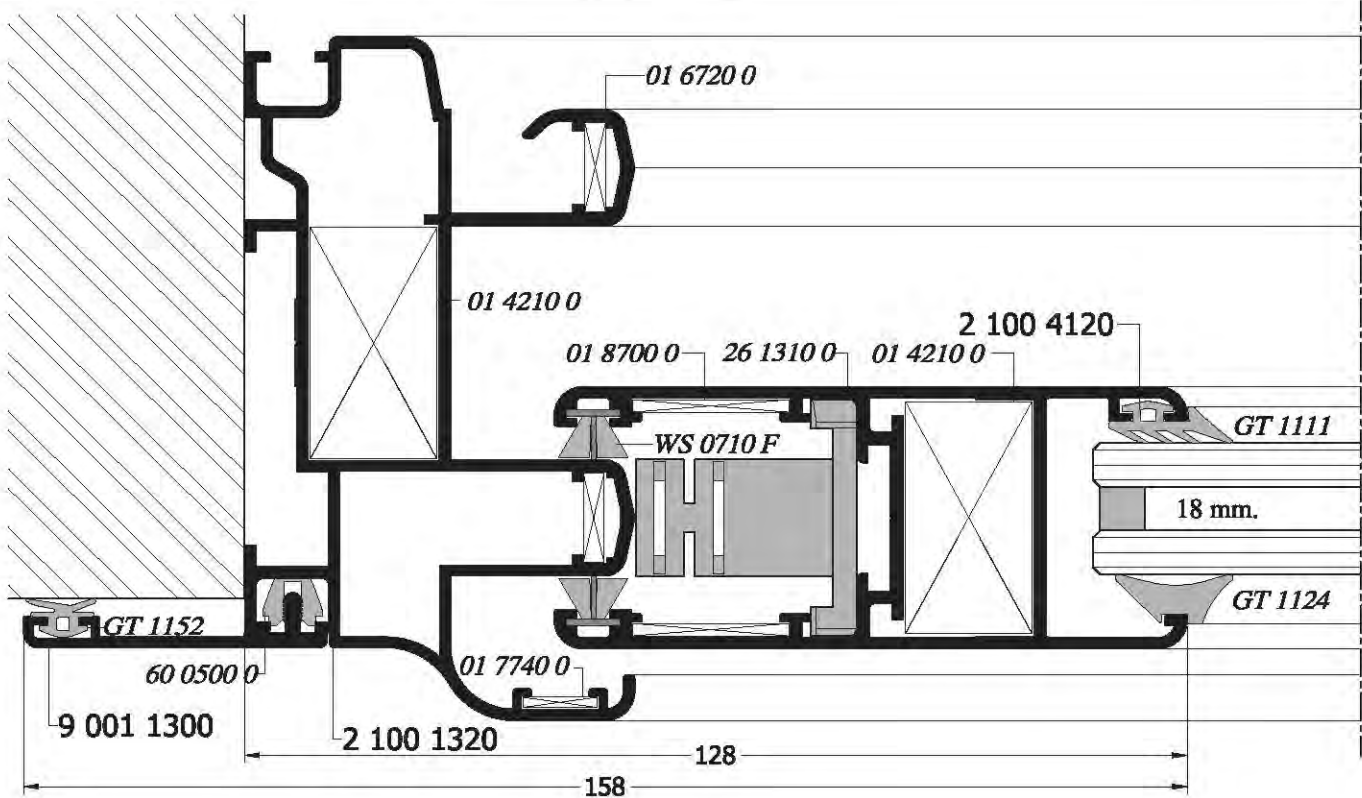
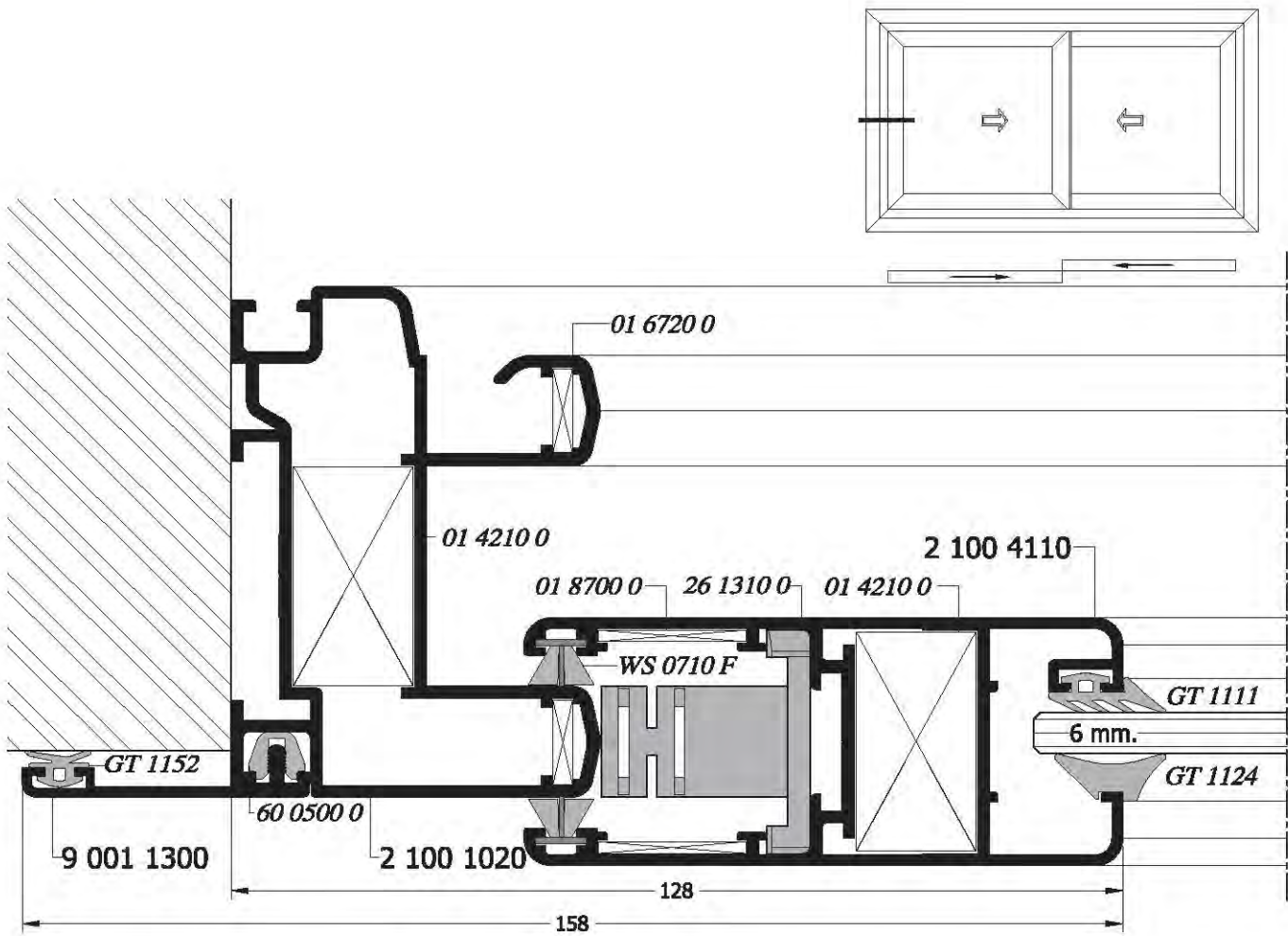


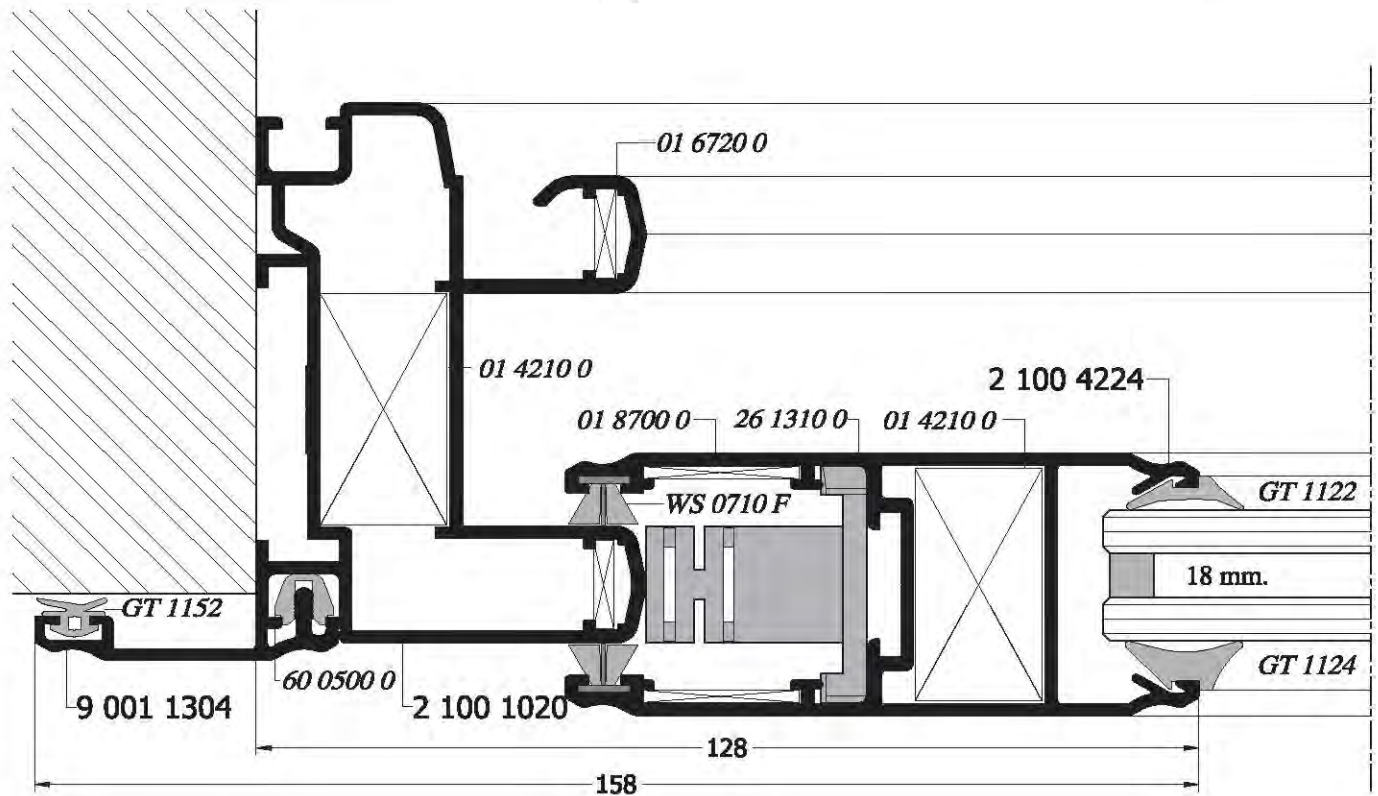
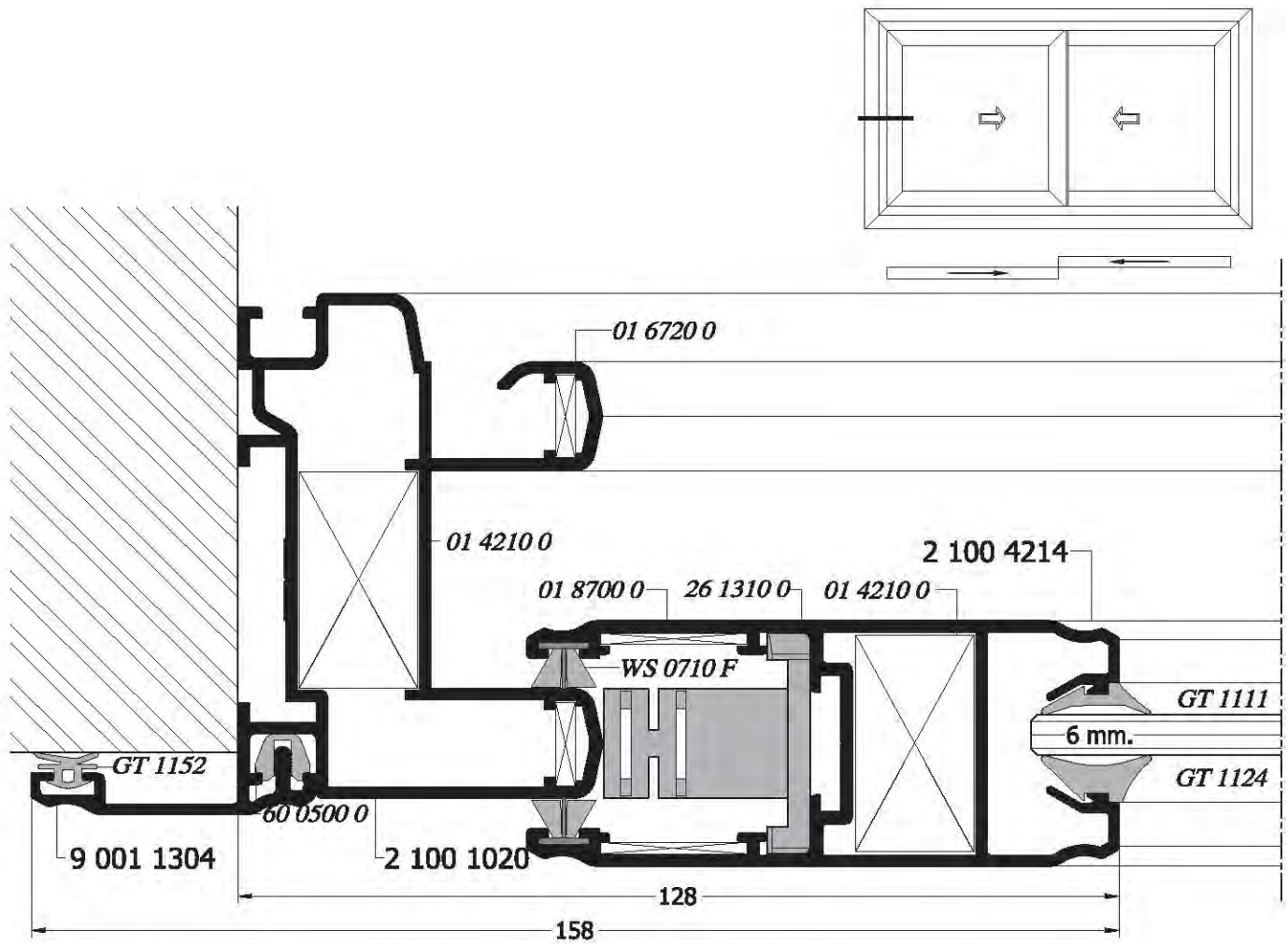
9 001 1705
0.457 Kg./ml.

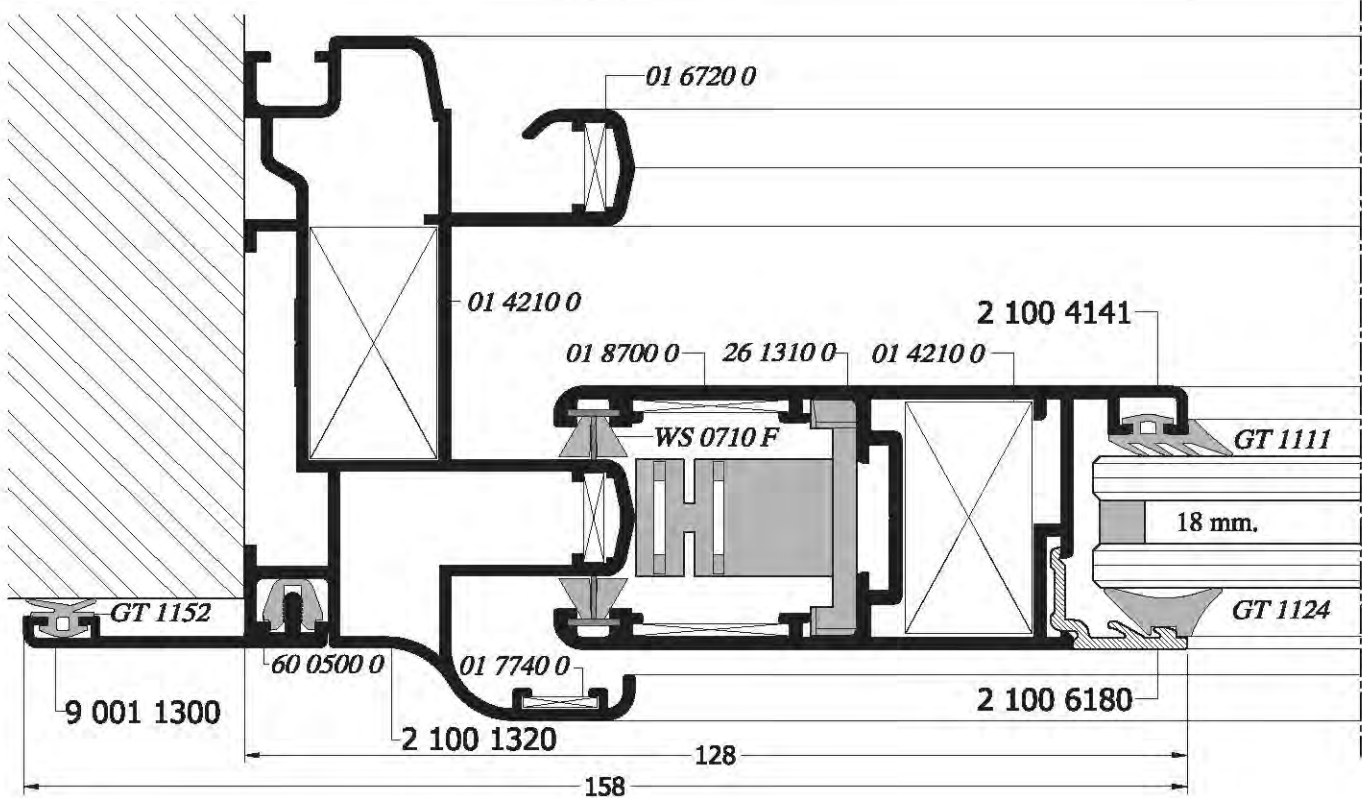
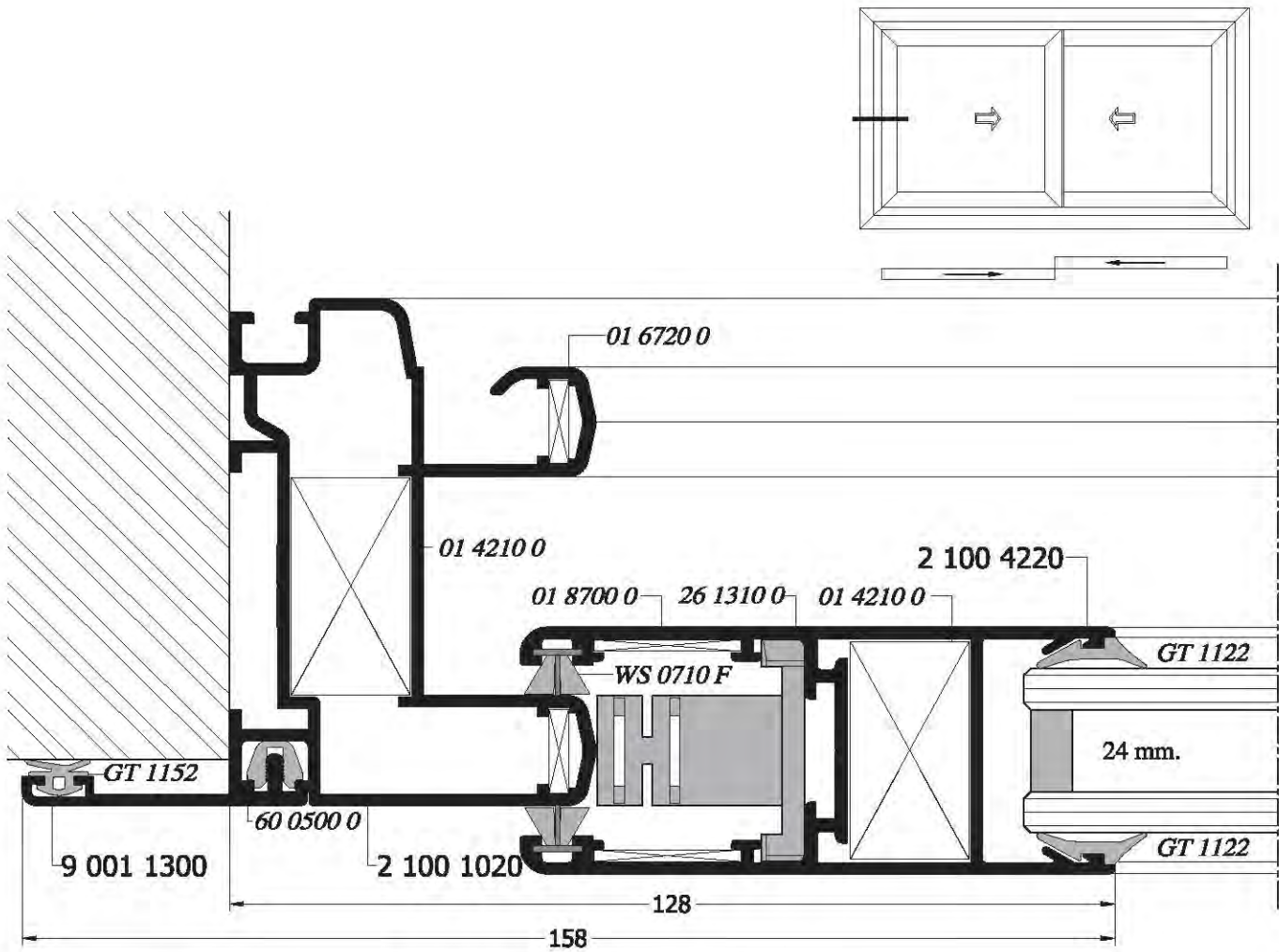


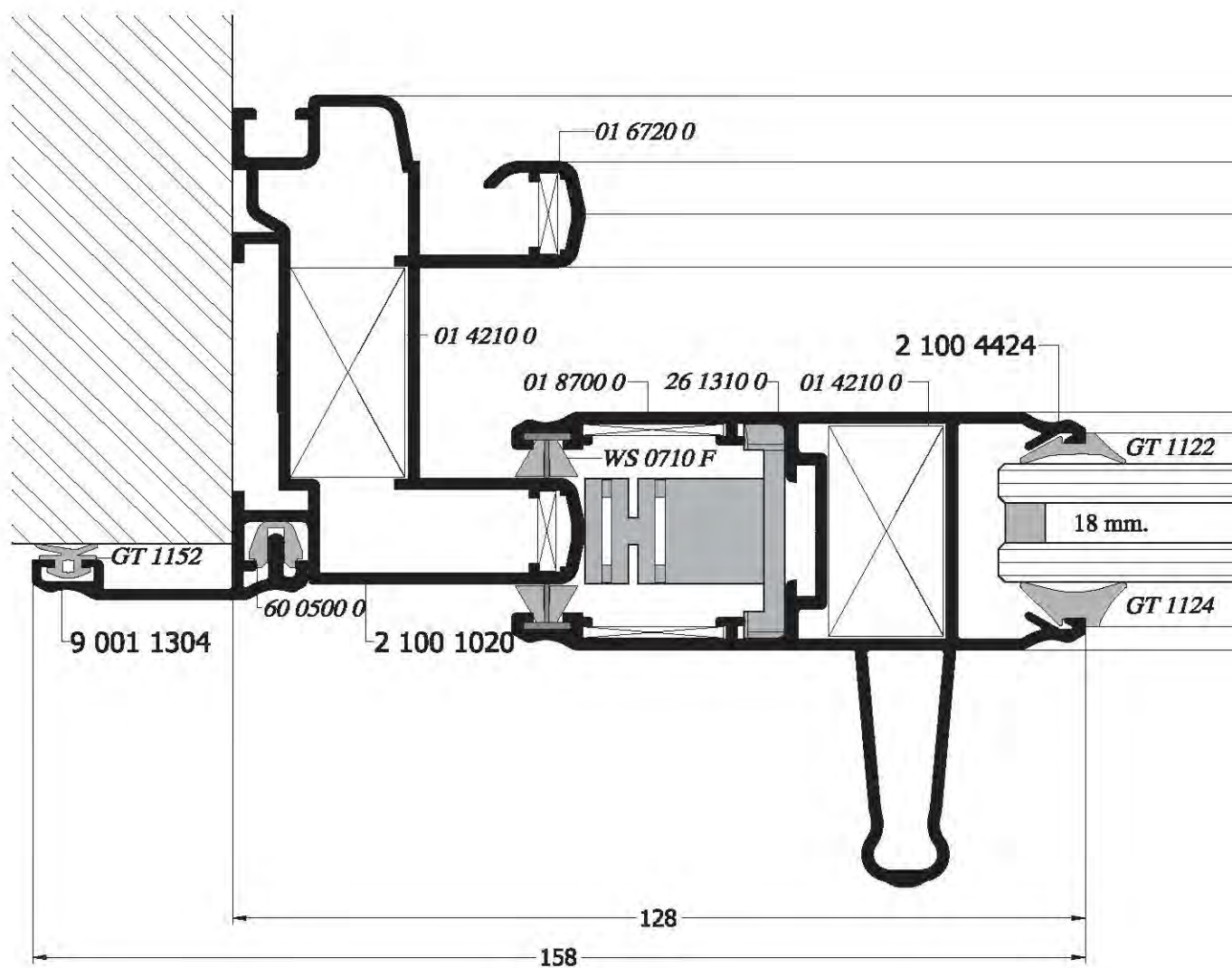
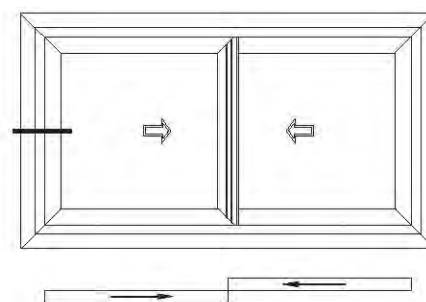
9 001 1708
0.482 Kg./ml.

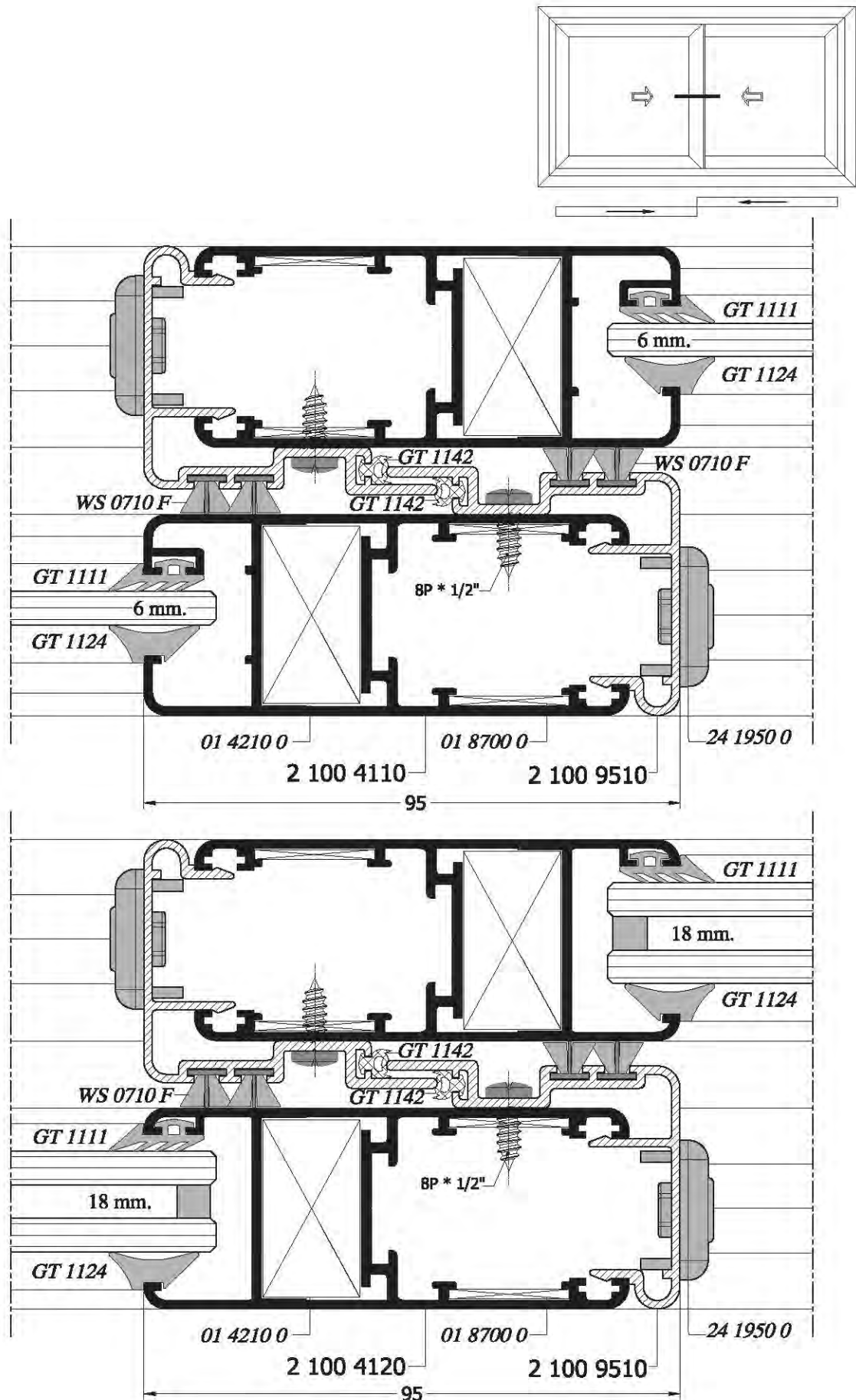
Profile No.	9 001 1700	9 001 1702	9 001 1703	9 001 1704	9 001 1705
Profile Old No.	SH 8086	SH 8086.2	SH 8086.3	SH 8086.4	SH 8086.5

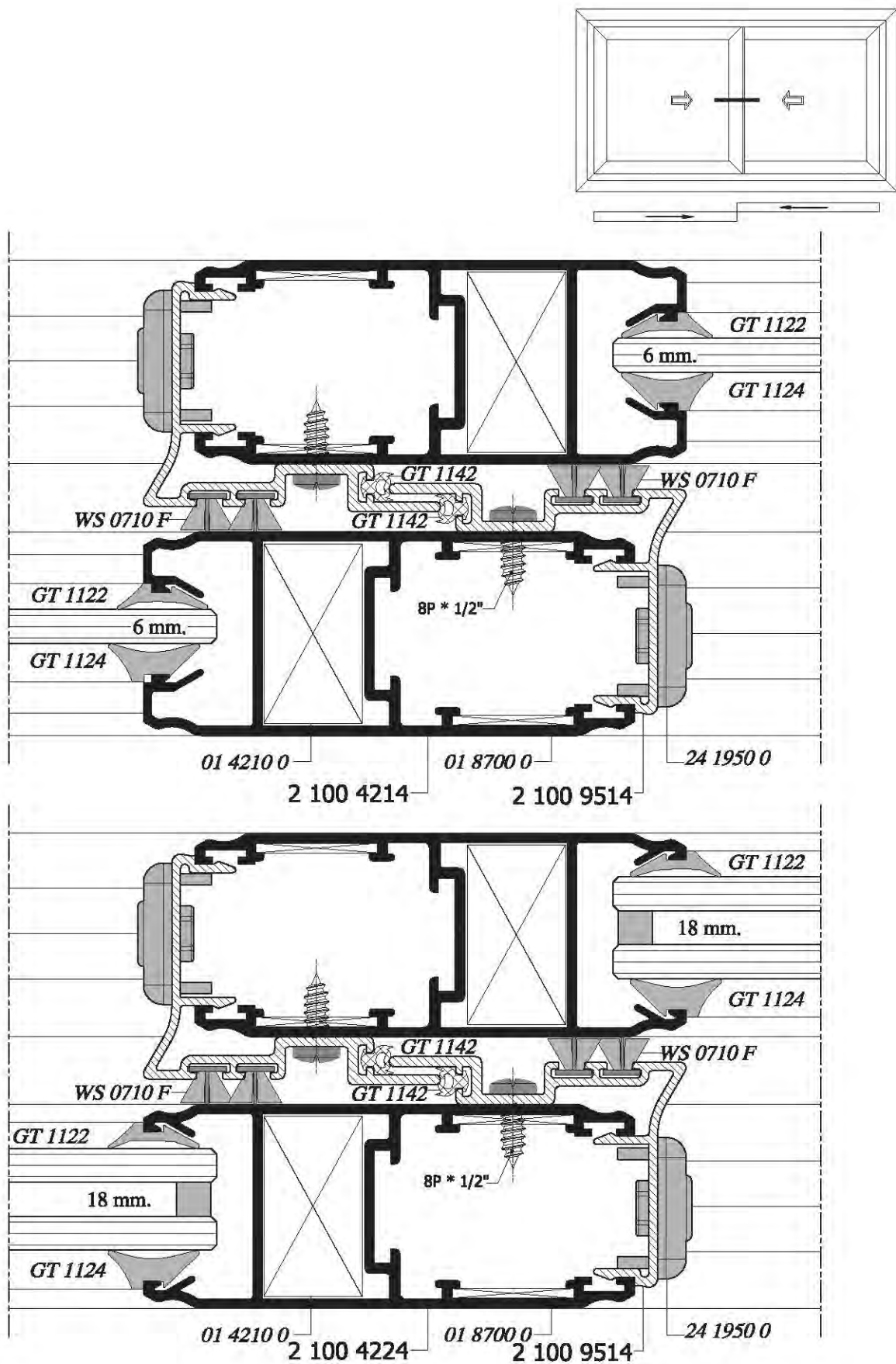


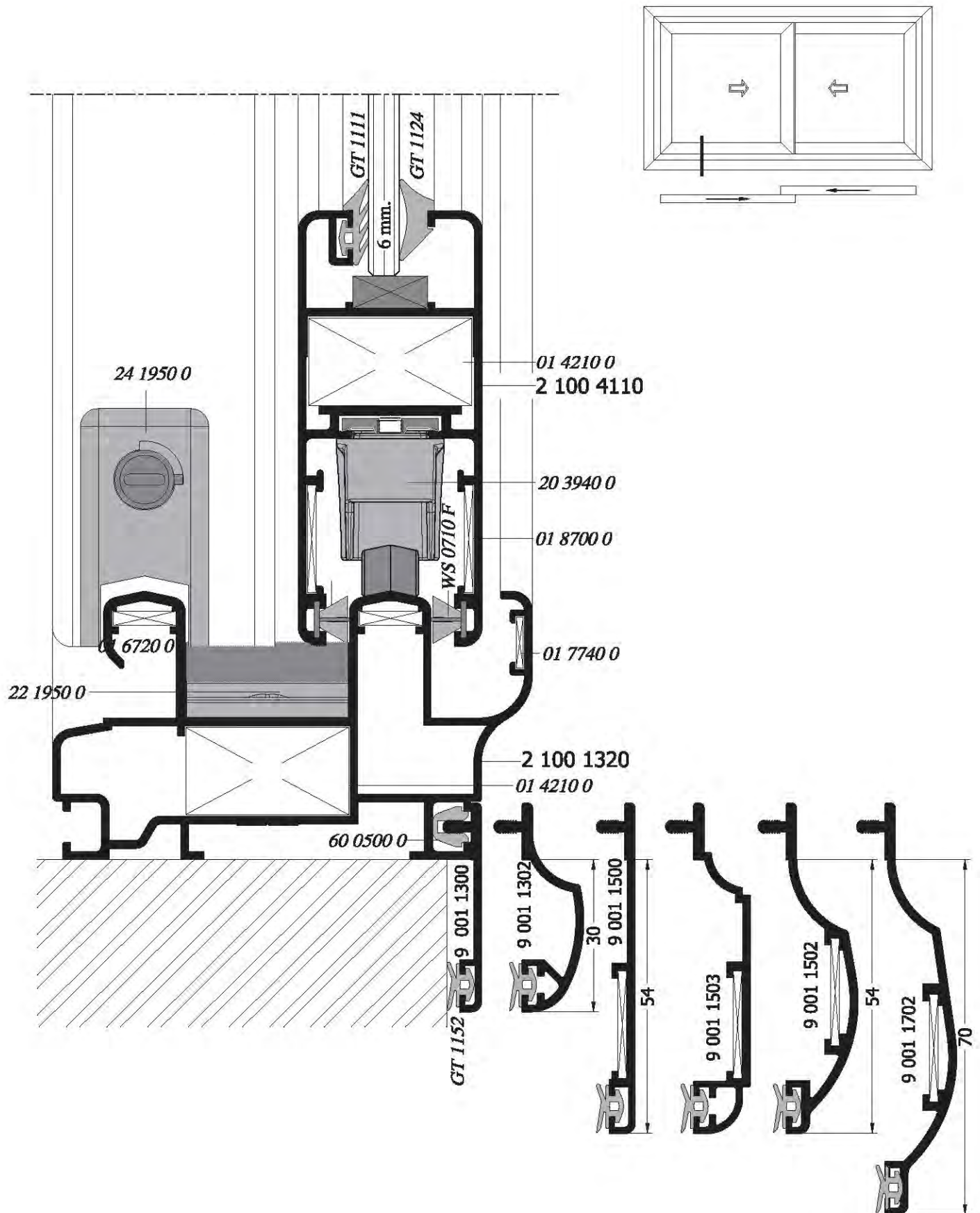


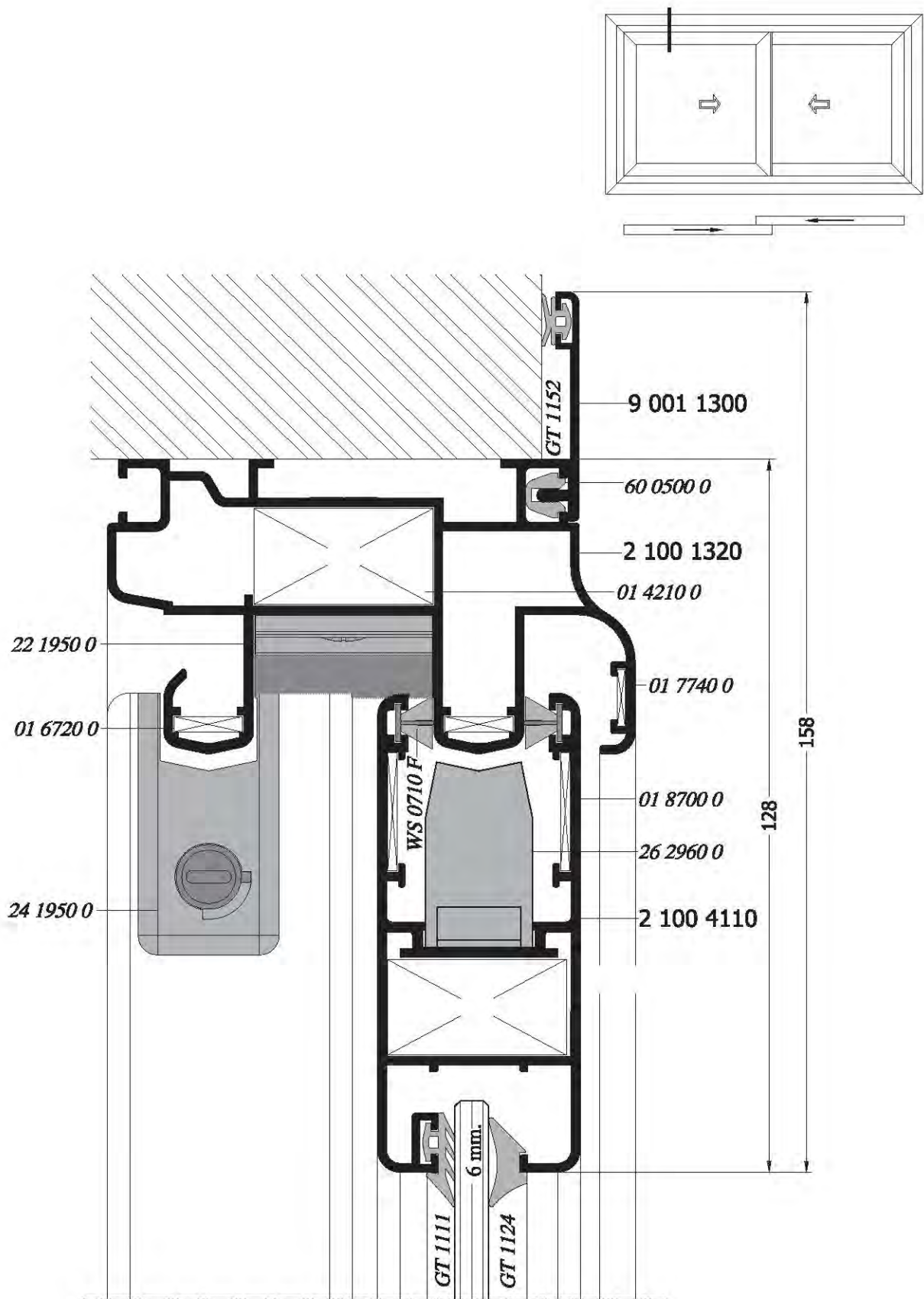


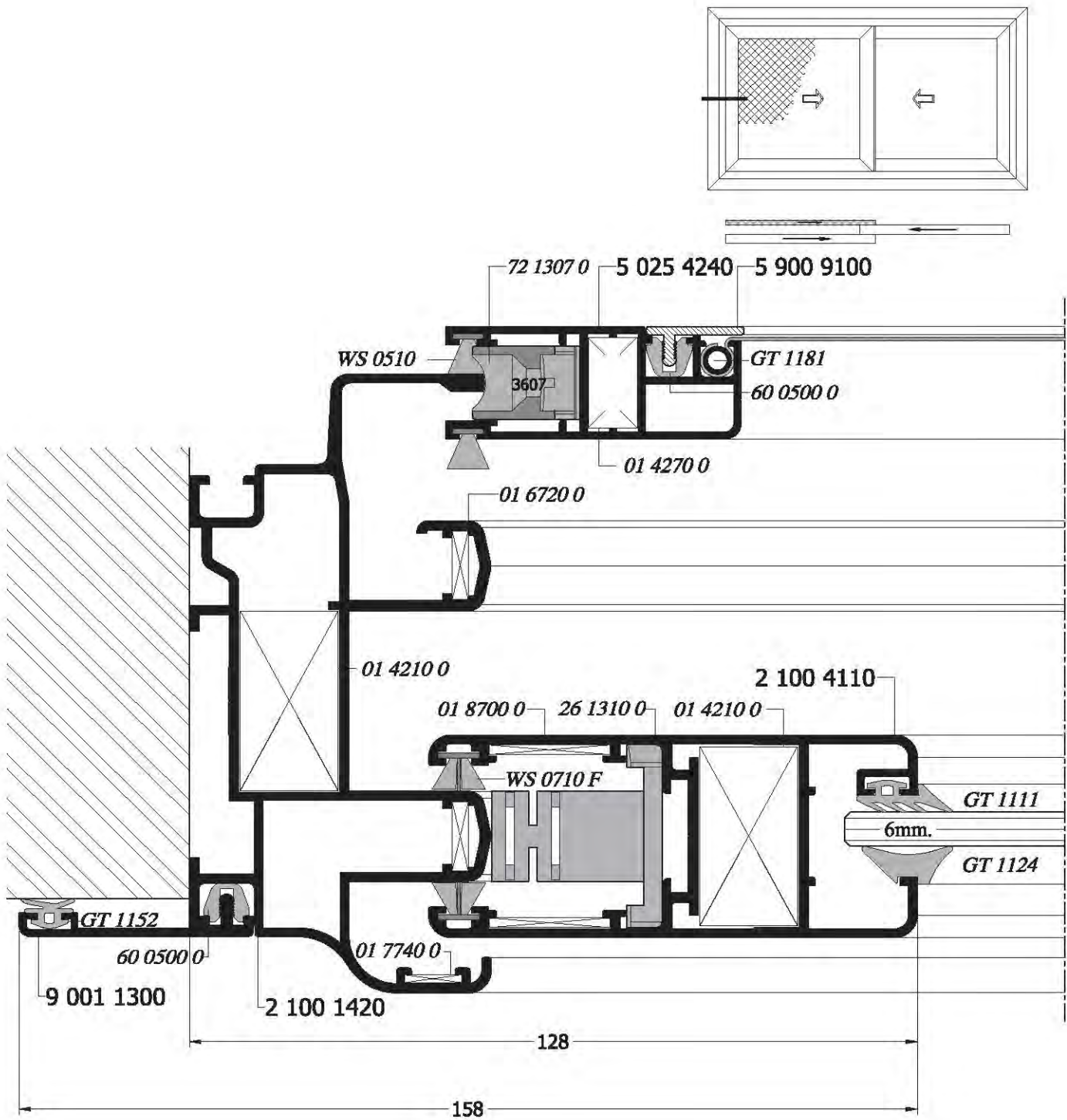


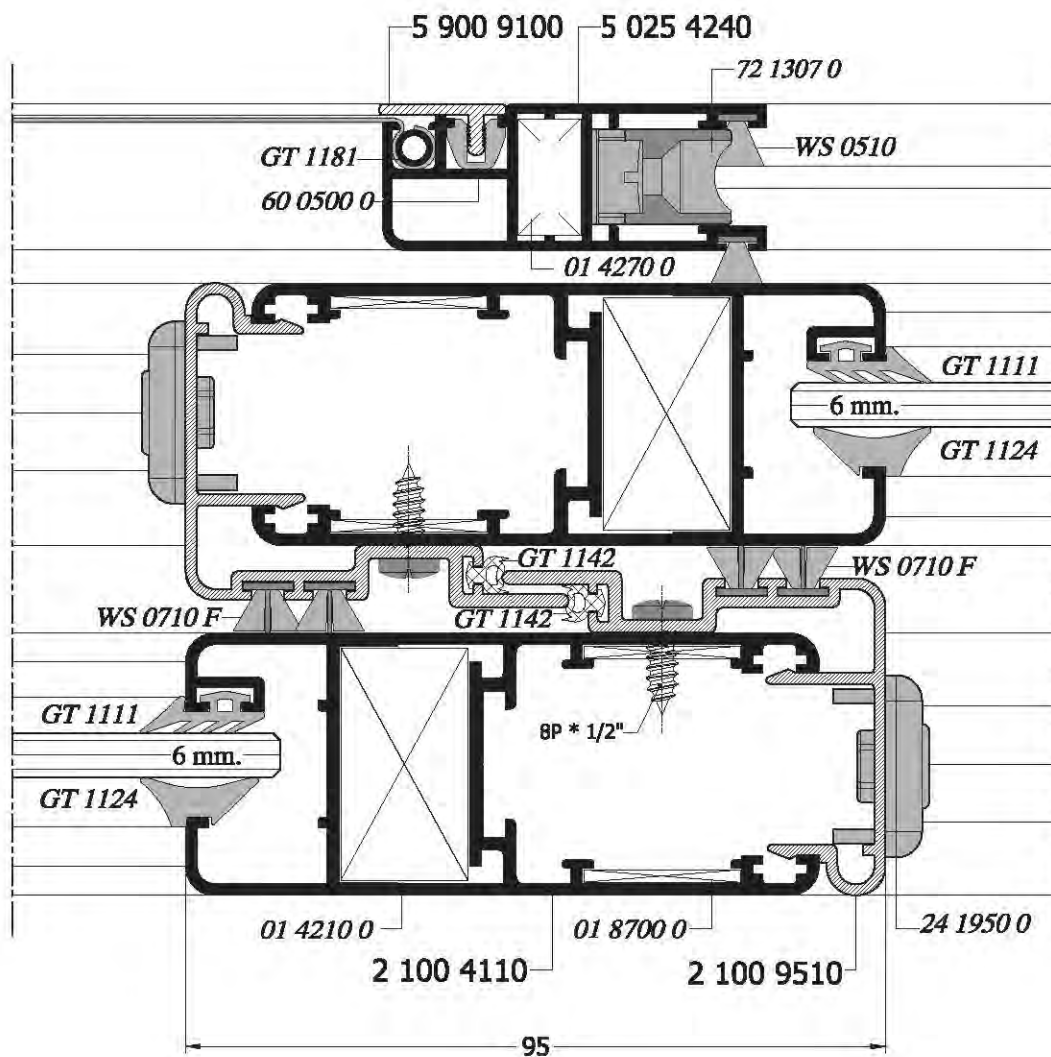
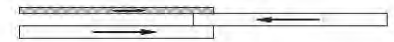
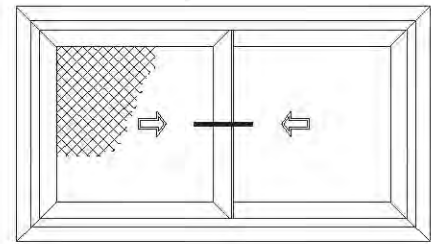


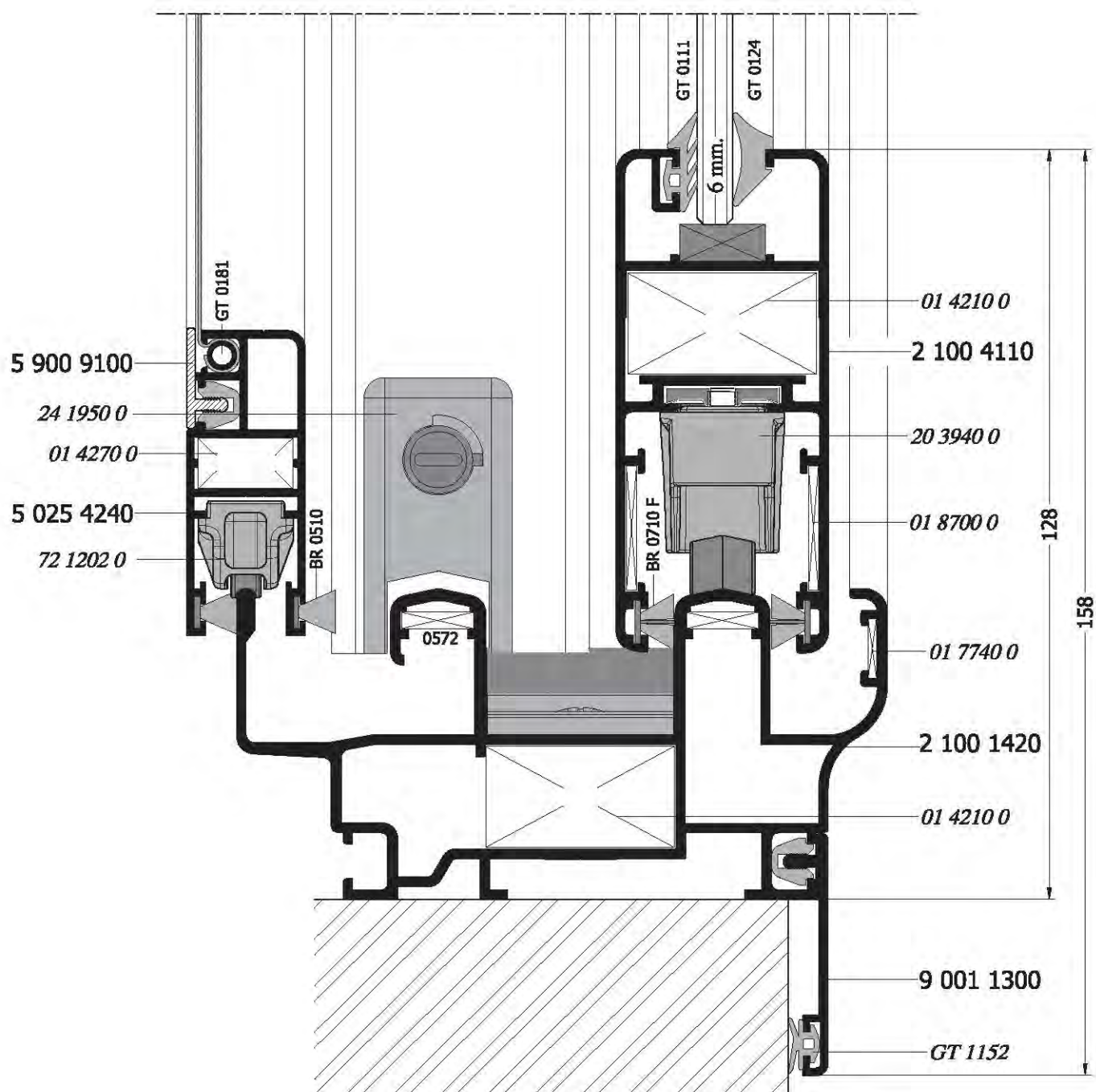
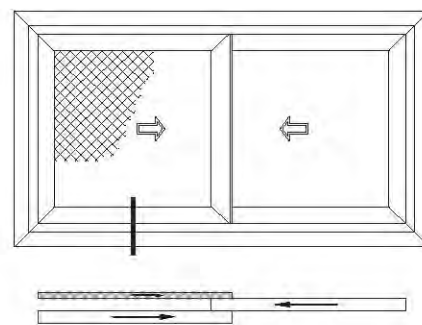


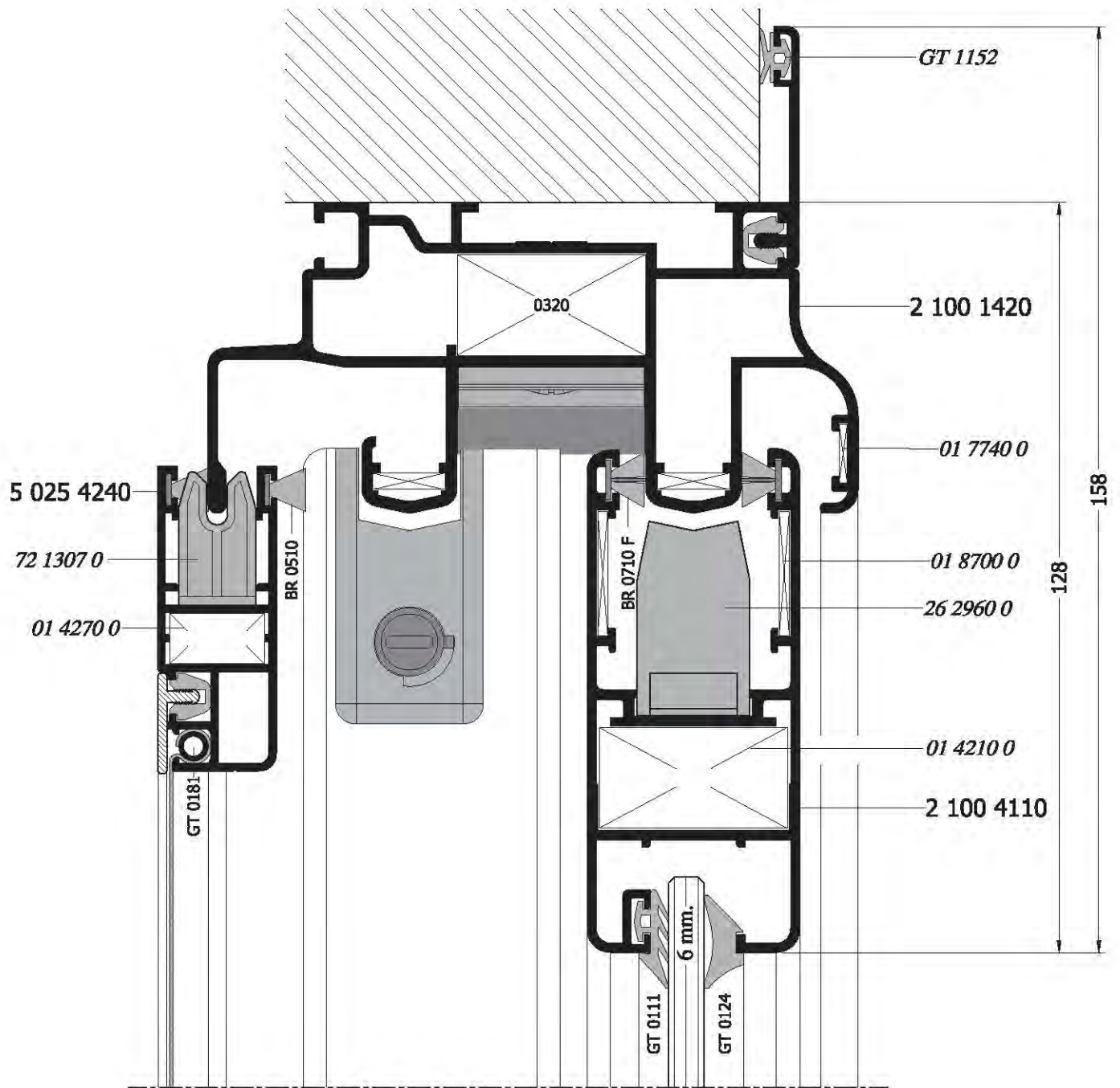
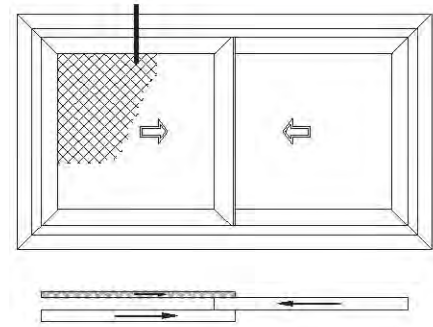


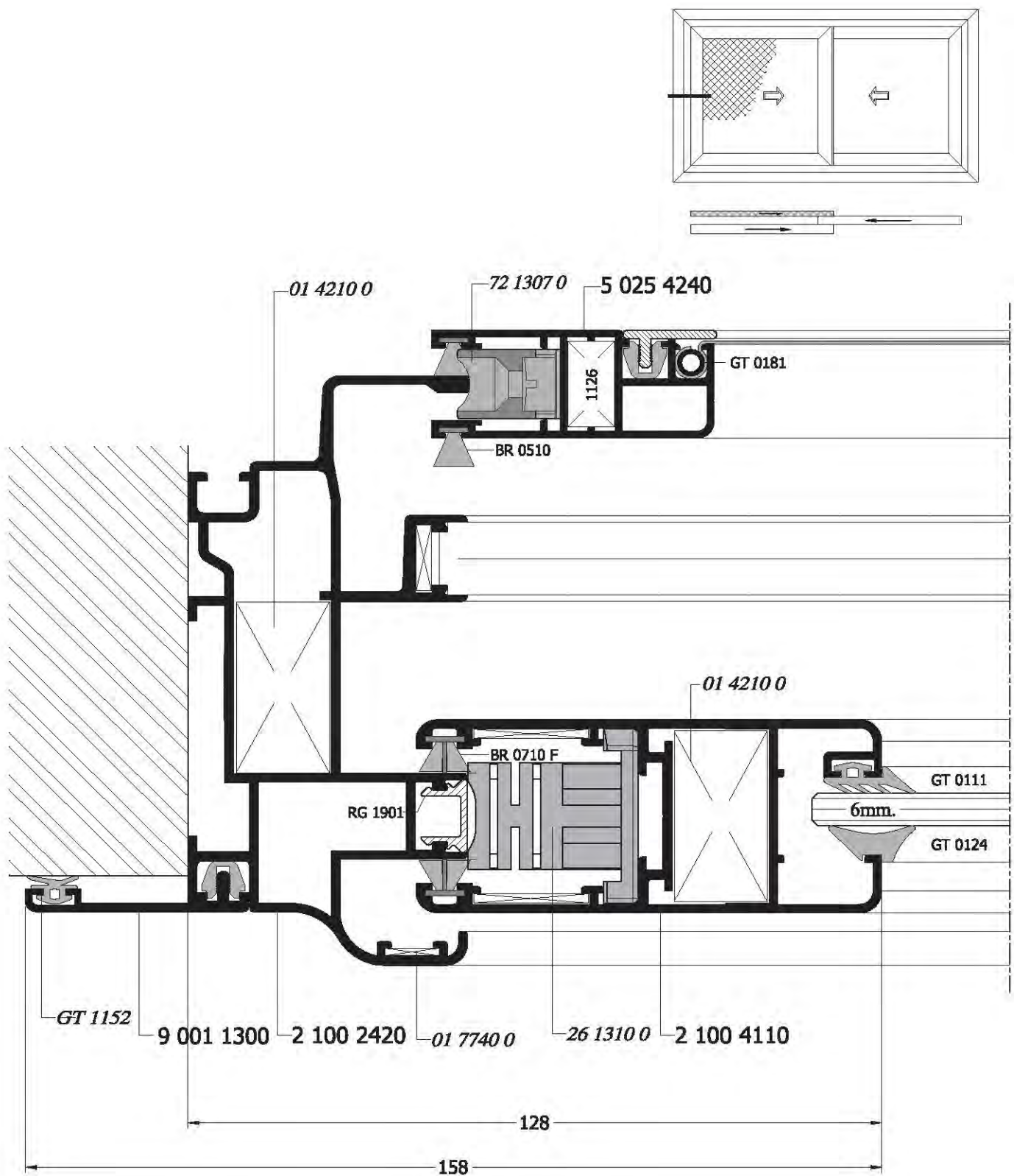


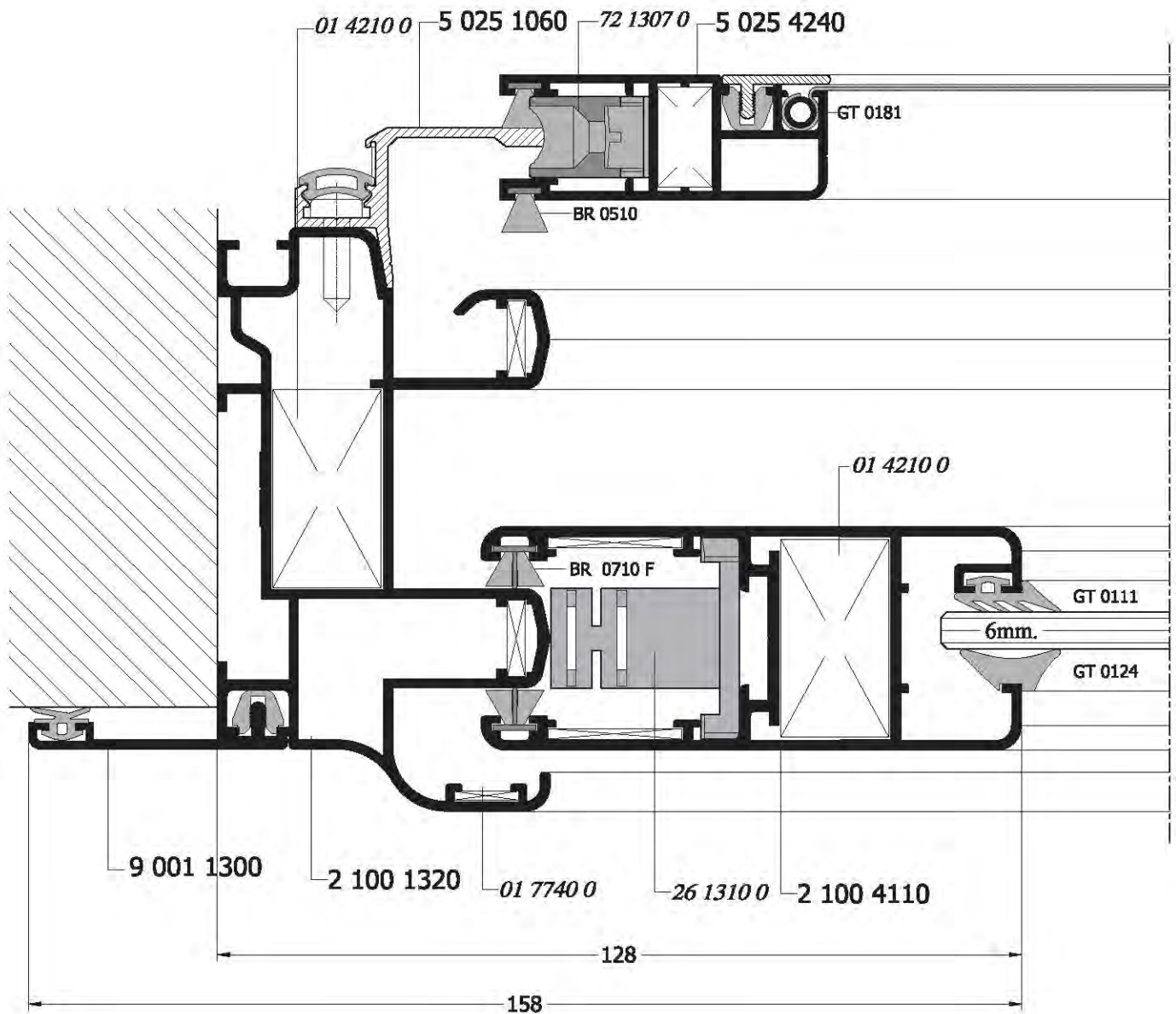
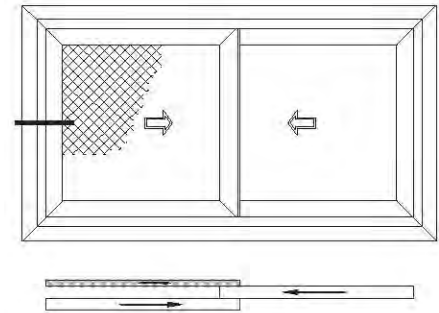


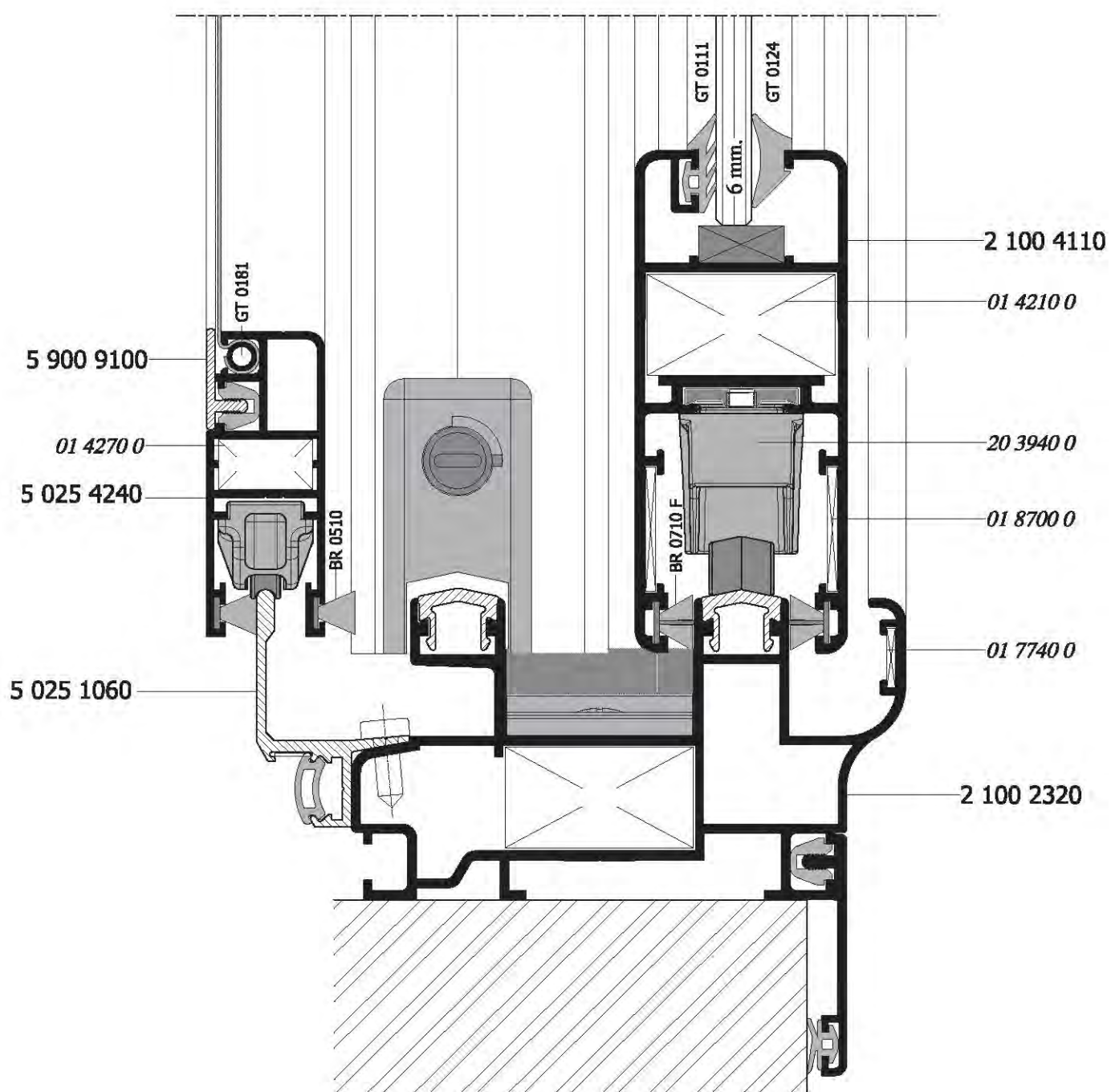
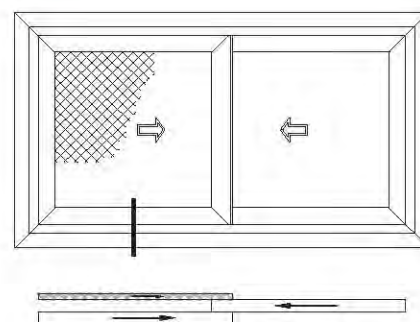


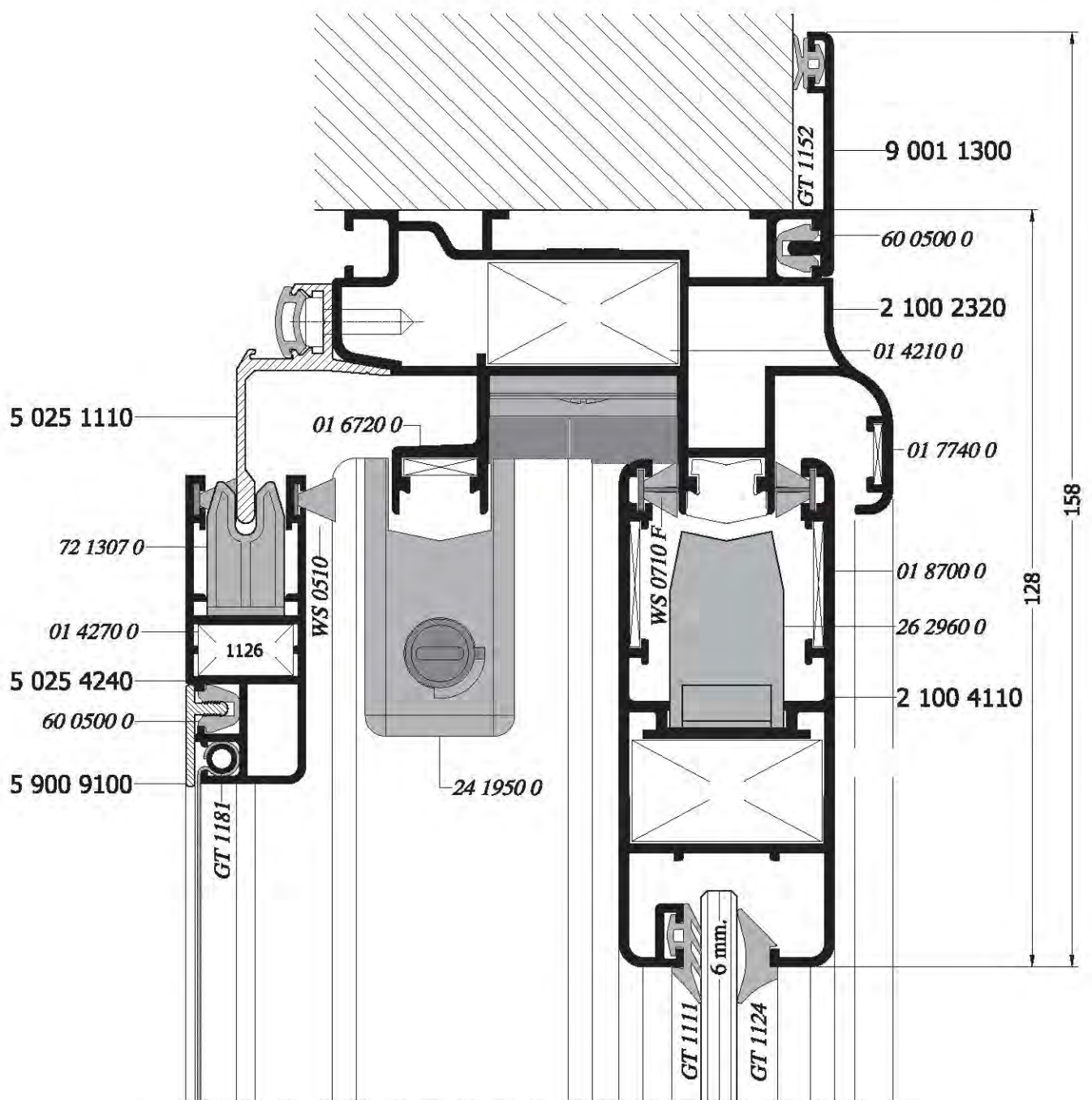
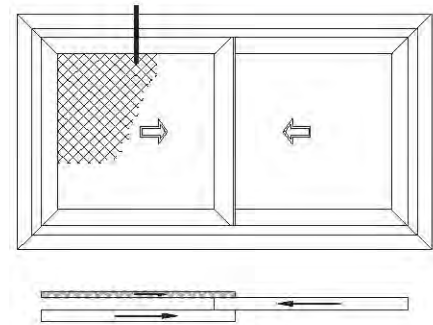


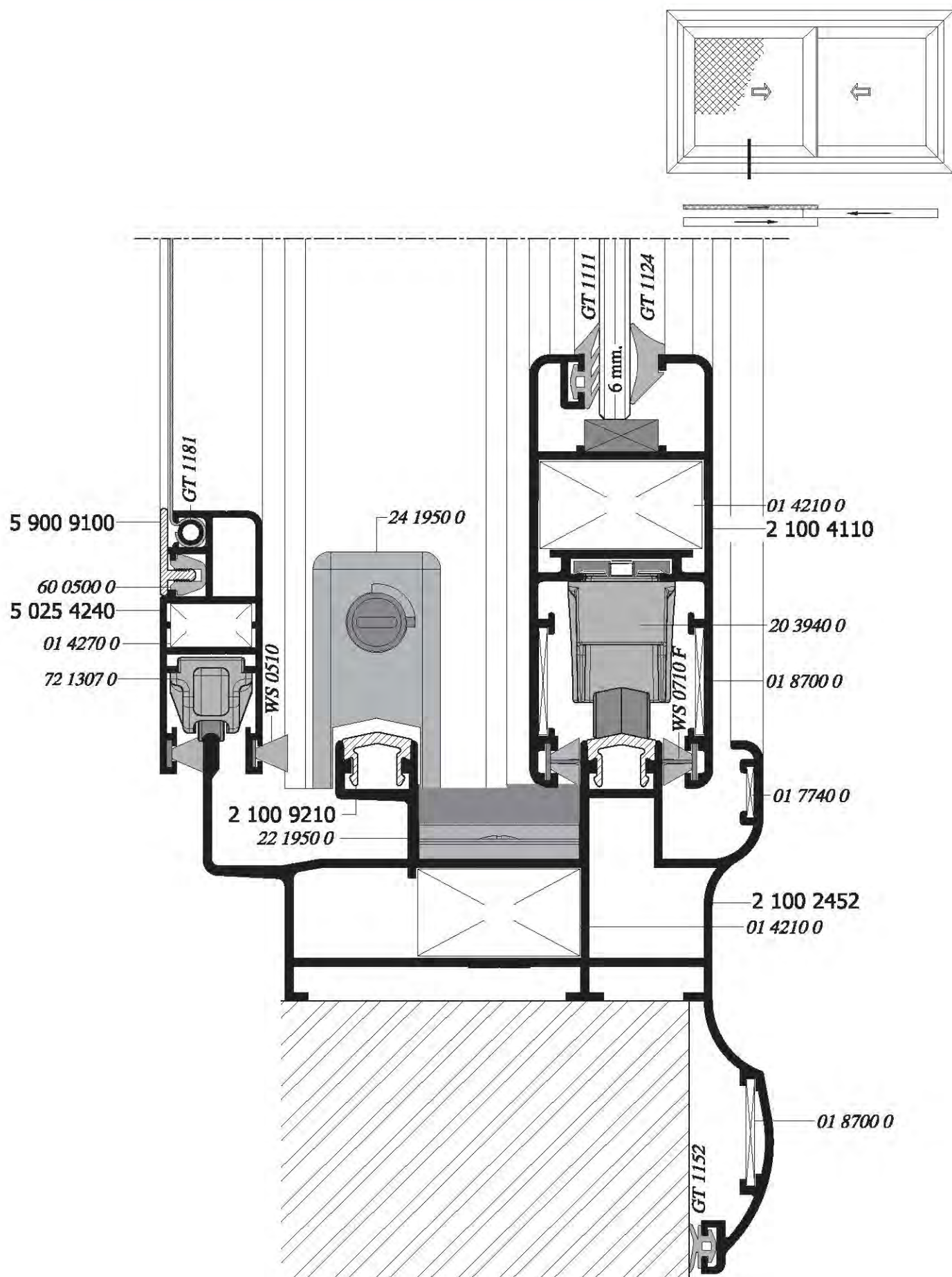


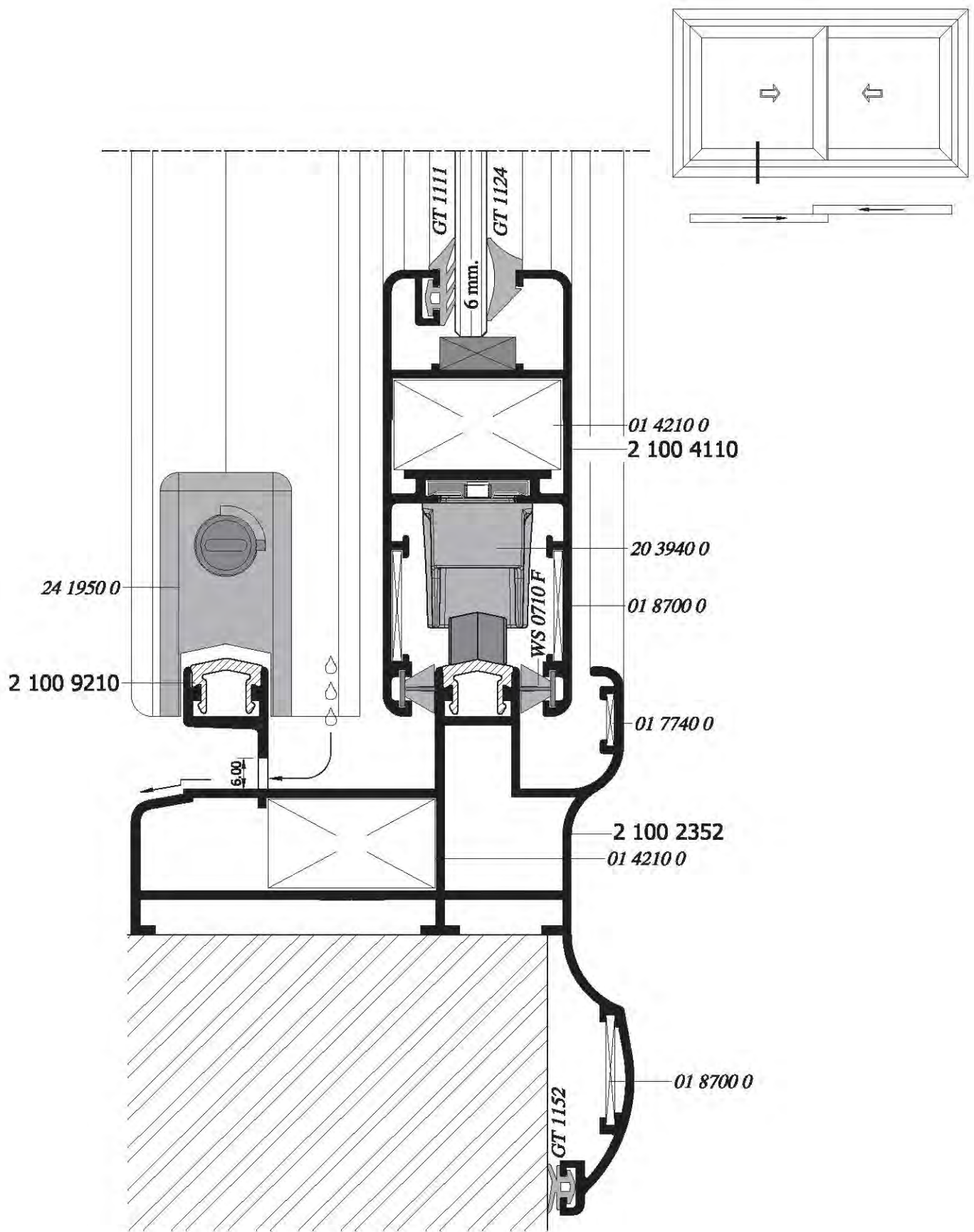


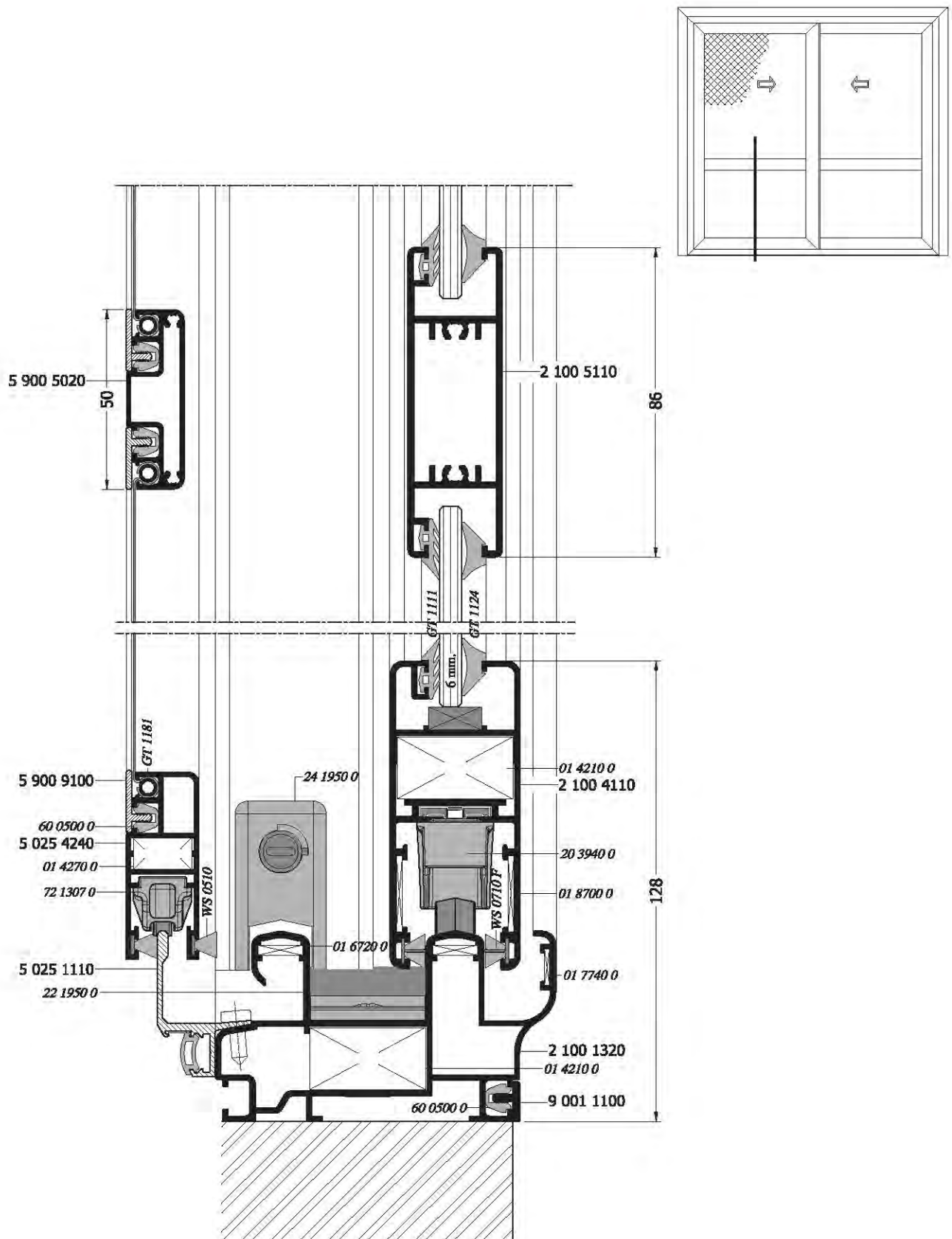


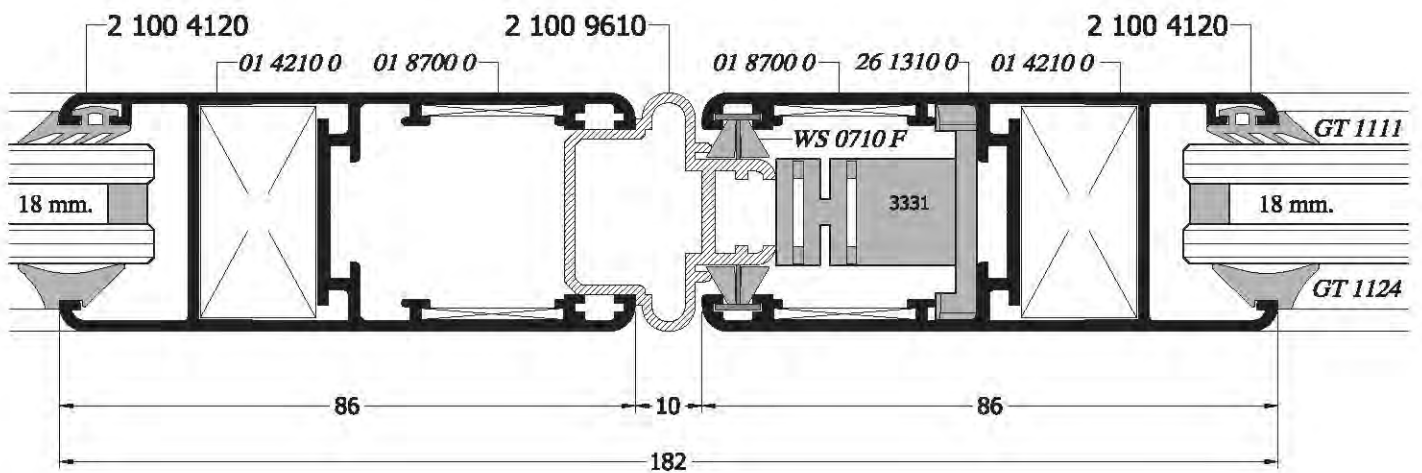
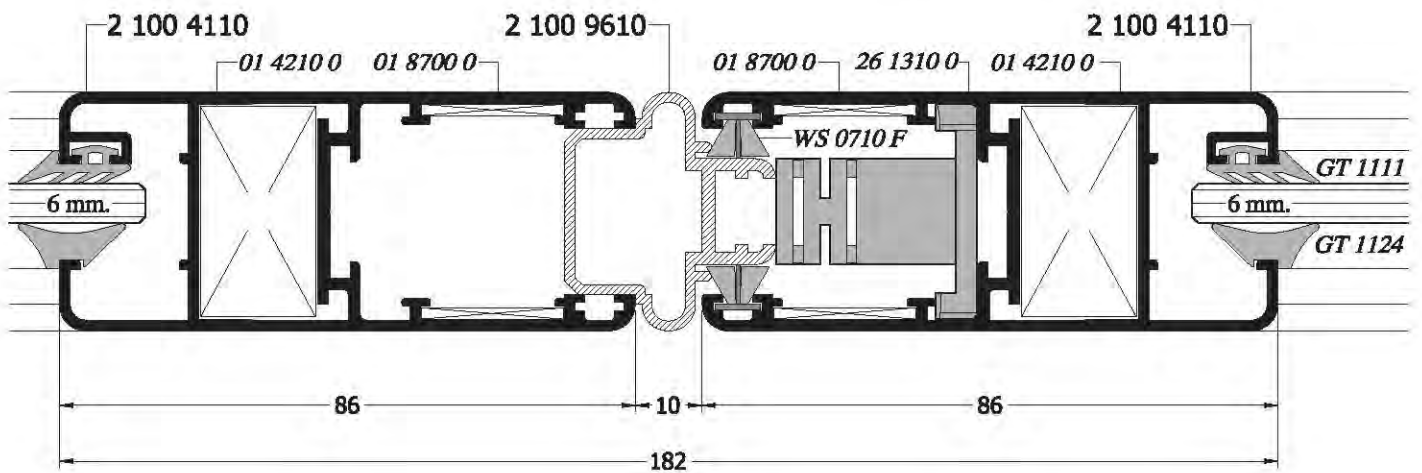
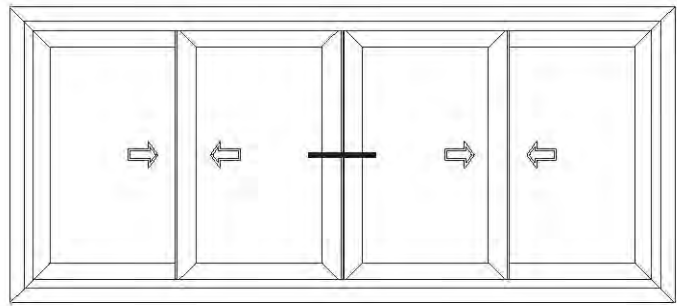


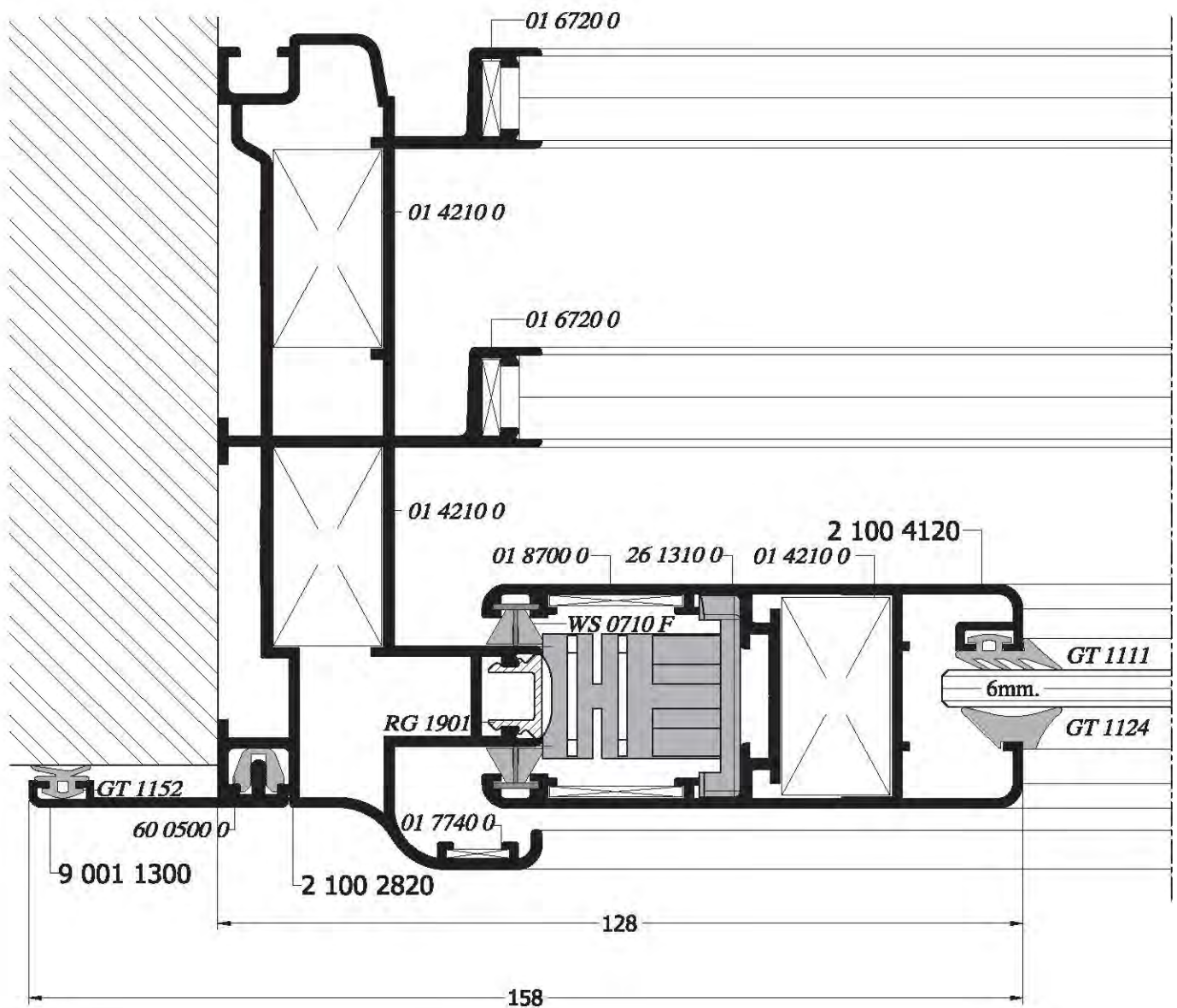
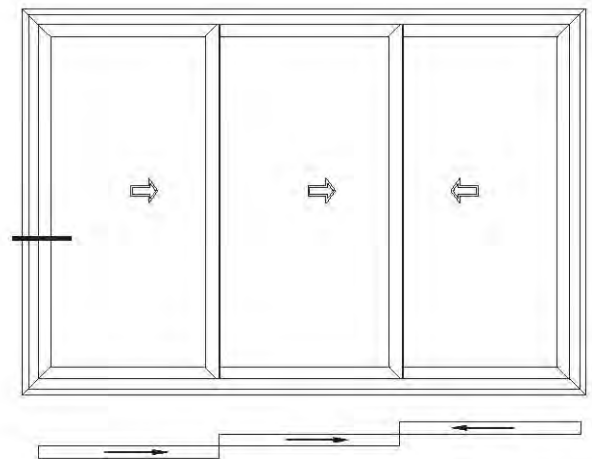


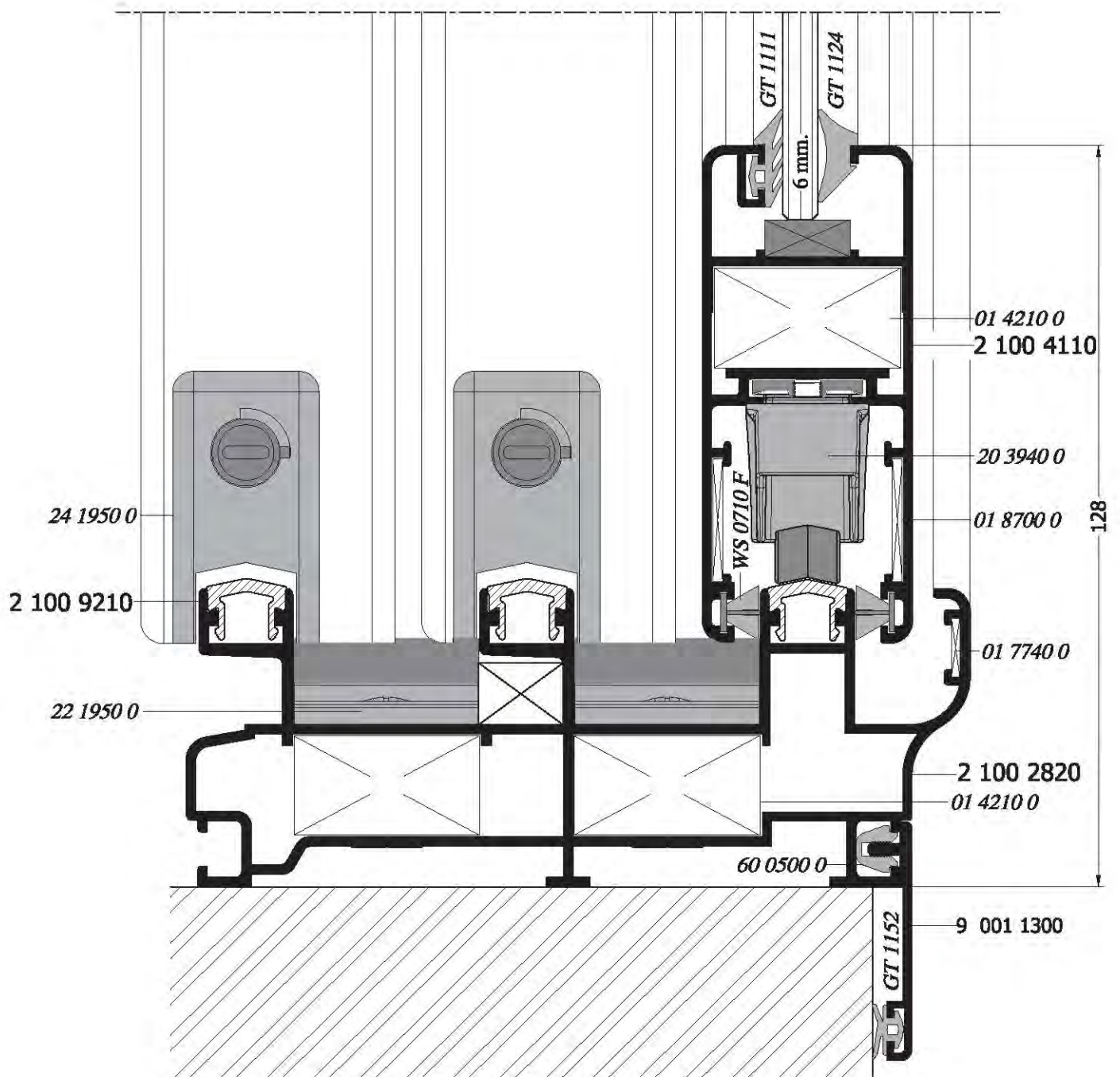
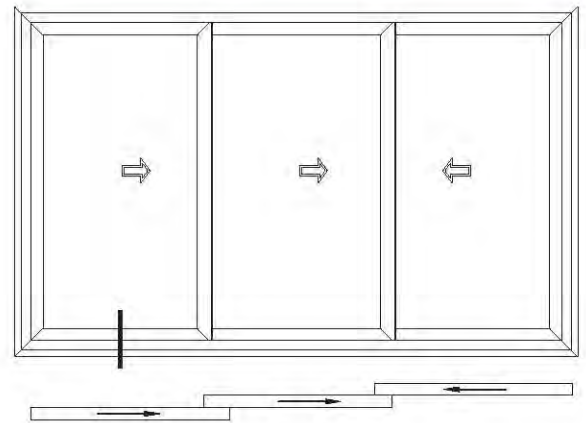


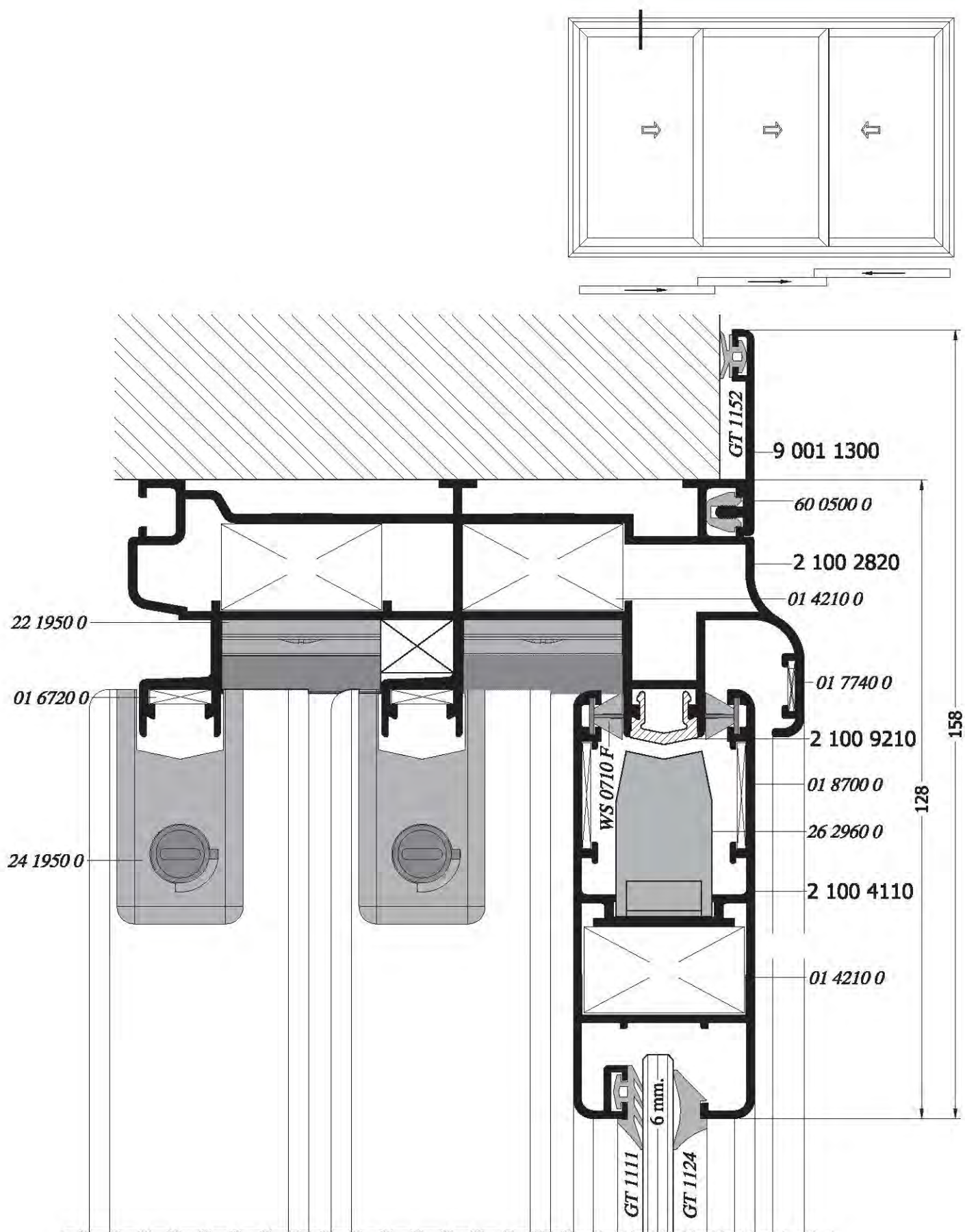


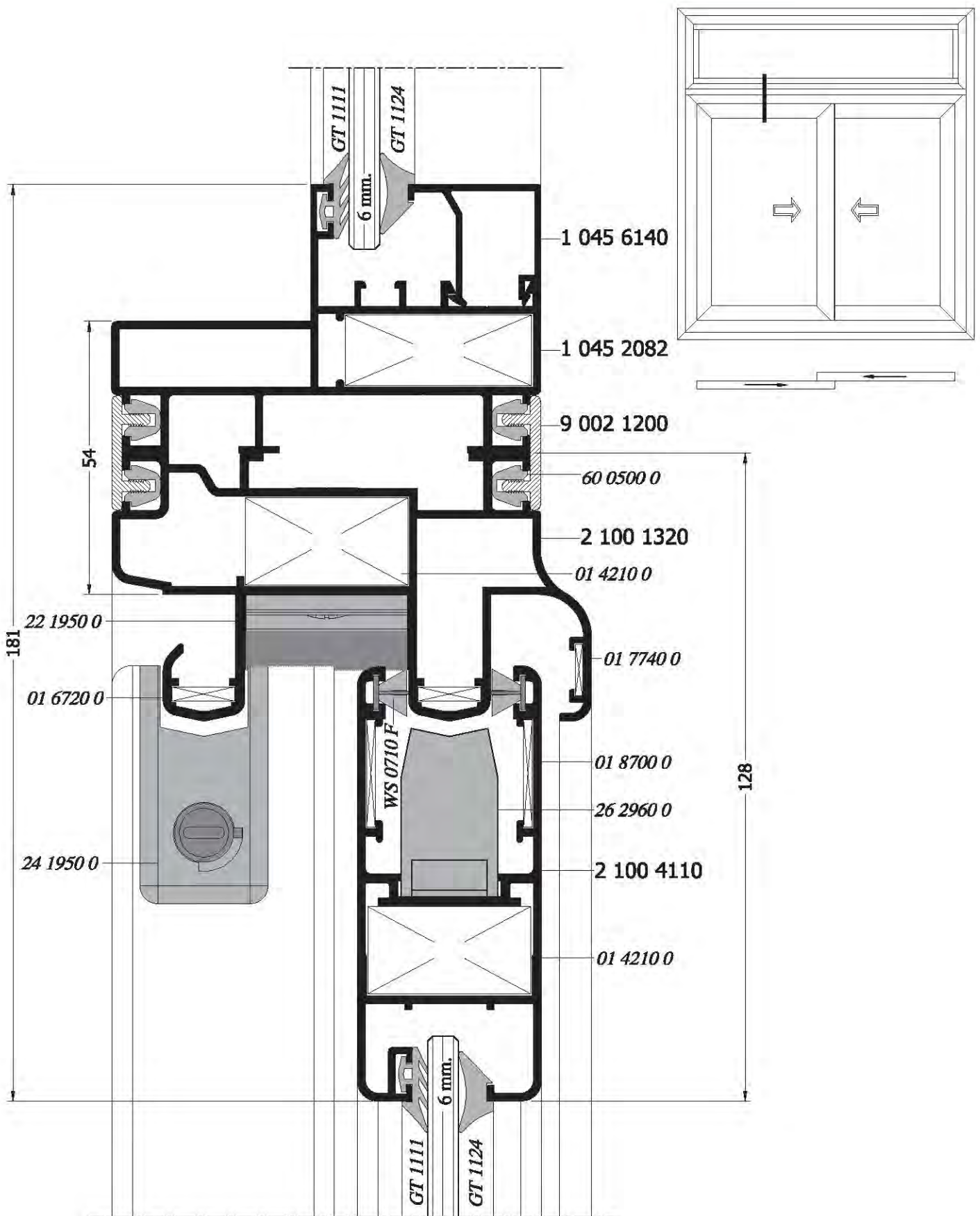


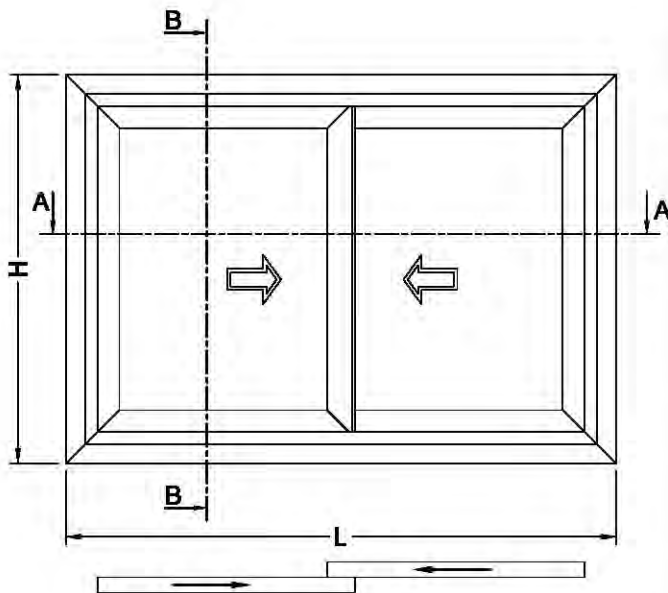




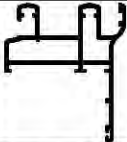
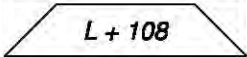
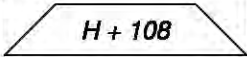
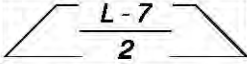
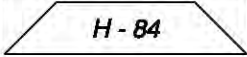
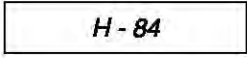
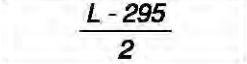
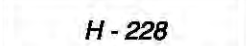






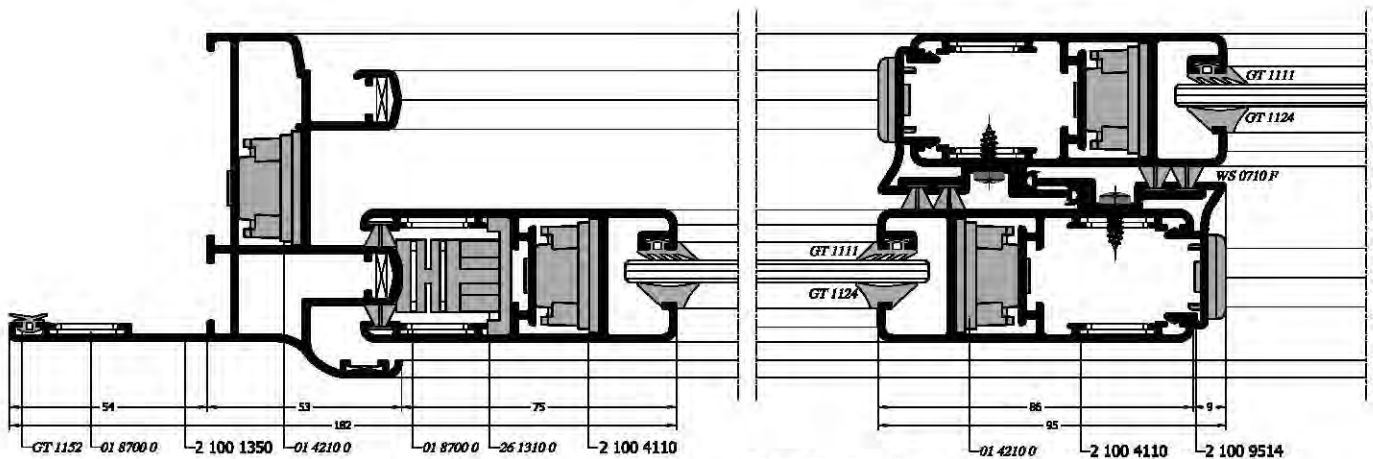


PROFILES CUTTING LIST

FIGURE	PROF. NO	QTY.	CUTTING LENGTH
	2 100 1350	2	
		2	
	2 100 4110	4	
		4	
	2 100 9514	2	
SINGLE GLASS"4-6mm"		2	
			
ALL DIMENSIONS IN mm.			

ACCESSORIES LIST

FIGURE	ACC. NO	QTY.	DESCRIPTION
	GT 1111	2L+4H	Glass Gasket
	GT 1124	2L+4H	Glass Gasket
	GT 1142	2H	Striker Gasket
	GT 1152	2L + 2H	Striker Gasket
	WS 7*10 R	4L+8H	Weather Strip

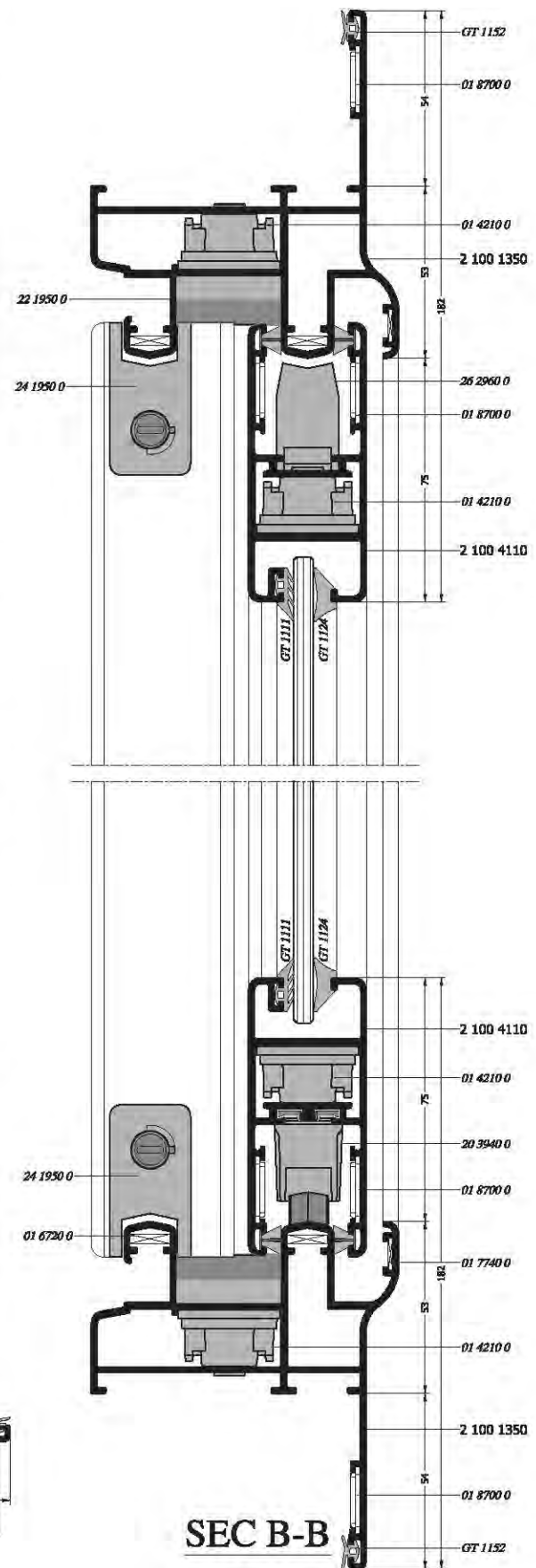
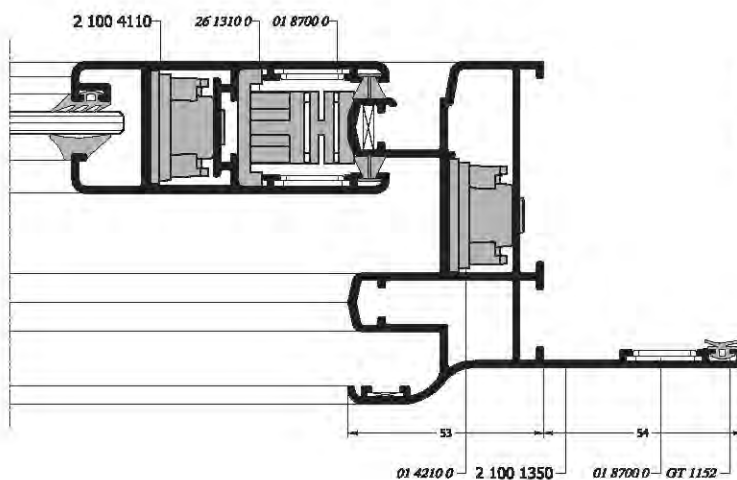


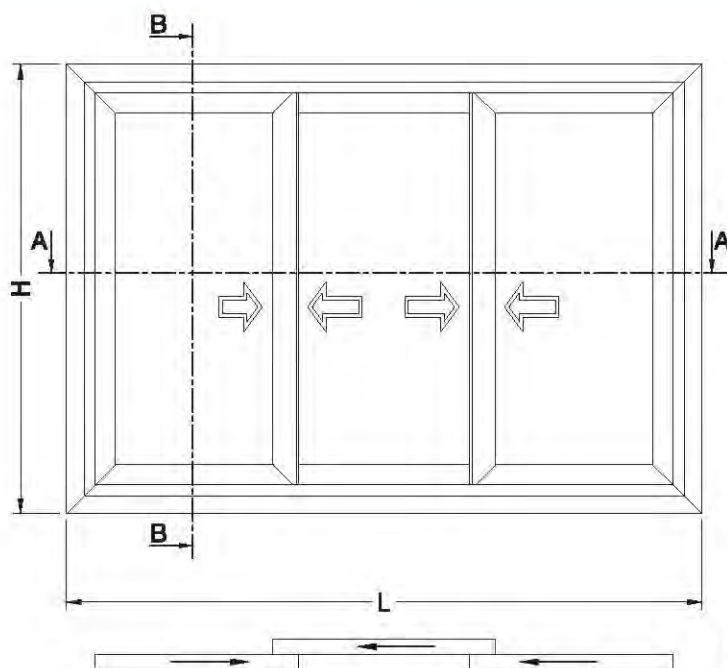
SEC A-A



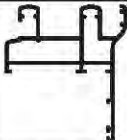
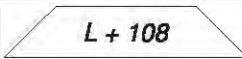
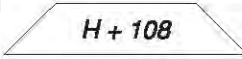
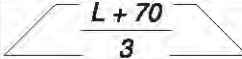
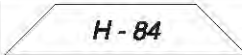
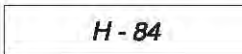
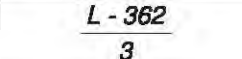
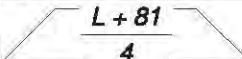
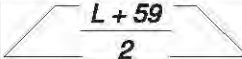
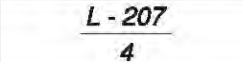
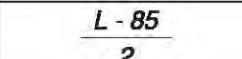
ACCESSORIES LIST

FIGURE	ACC. NO	QTY.	DESCRIPTION
	01 4210 0	12	Corner Joint
	01 6720 0	8	Alignment Angle
	01 7740 0	4	Alignment Angle
	01 8700 0	20	Alignment Angle
	20 2920 0	1	Single Roller Set
	22 1950 0	2	Anti-Dust Caps
	24 1950 0	4	Cover Caps
	26 1310 0	4	Shock Absorber
	26 2960 0	2	Security Gard
	26 2970 0	4	Alignment Guide
	28 1100 0	2	Drange Cover
	42 3400 0	2	Siwa Lateral Handle
	46 1500 0	1	Siwa Handle
	58 2050 0	2	Striker



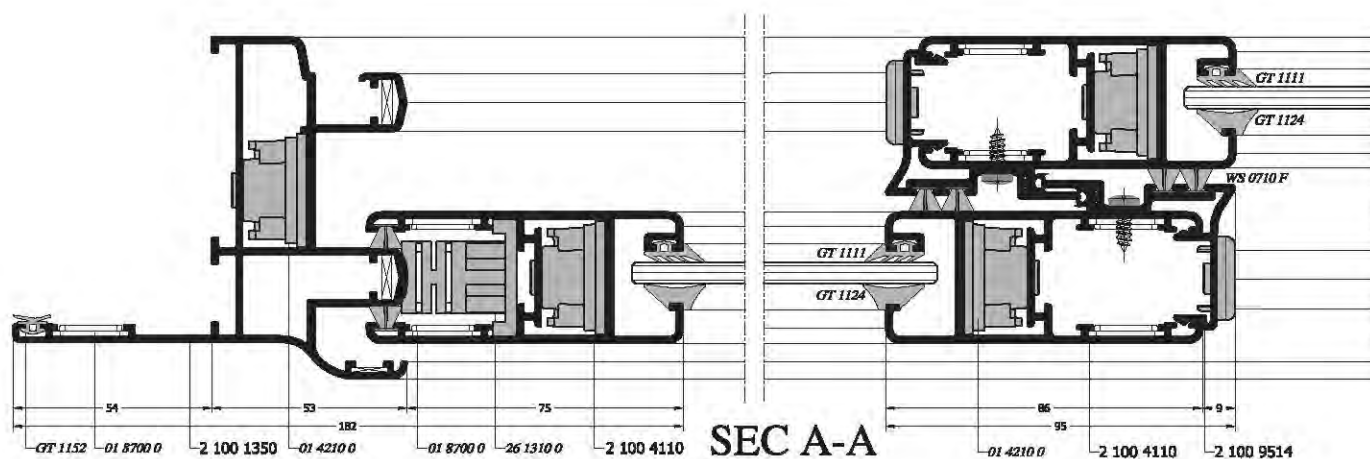


PROFILES CUTTING LIST

PROFILES CUTTING LIST			
FIGURE	PROF. NO	QTY.	CUTTING LENGTH
	2 100 1350	2	 $L + 108$
		2	 $H + 108$
	2 100 4110	6	 $\frac{L + 70}{3}$
		6	 $H - 84$
	2 100 9514	4	 $H - 84$
SINGLE GLASS"4-6mm"		3	 $\frac{L - 362}{3}$
			$H - 228$
OTHER OPTION: DUPLICATE THE MIDDLE LEAF			
	2 100 4110	4	 $\frac{L + 81}{4}$
		2	 $\frac{L + 59}{2}$
SINGLE GLASS"4-6mm"		2	 $\frac{L - 207}{4}$
			$H - 228$
SINGLE GLASS"4-6mm"		1	 $\frac{L - 85}{2}$
			$H - 228$
ALL DIMENSIONS IN mm.			

ACCESSORIES LIST

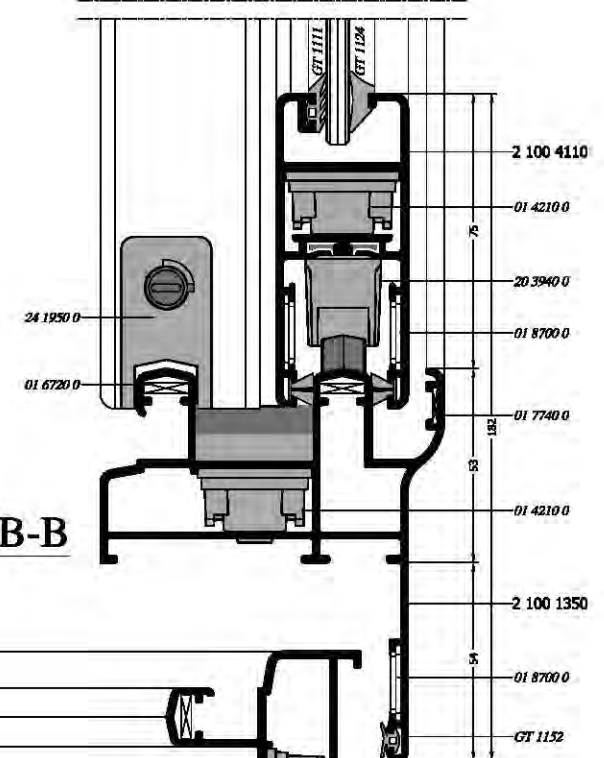
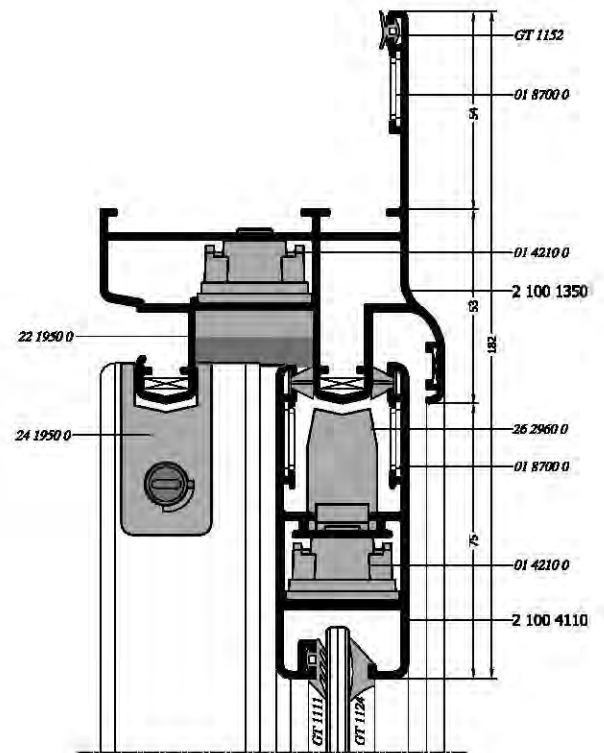
FIGURE	ACC. NO	QTY.	DESCRIPTION
	GT 1111	2L+6H	Glass Gasket
	GT 1124	2L+6H	Glass Gasket
	GT 1142	4H	Striker Gasket
	GT 1152	2L + 2H	Striker Gasket
	WS 7*10 R	4L+12H	Weather Strip



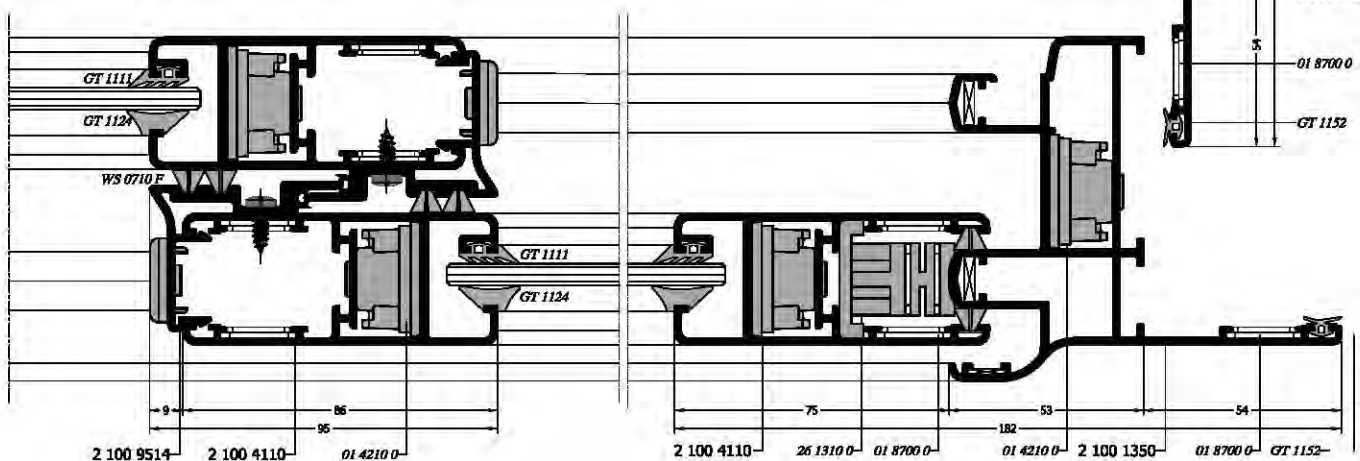


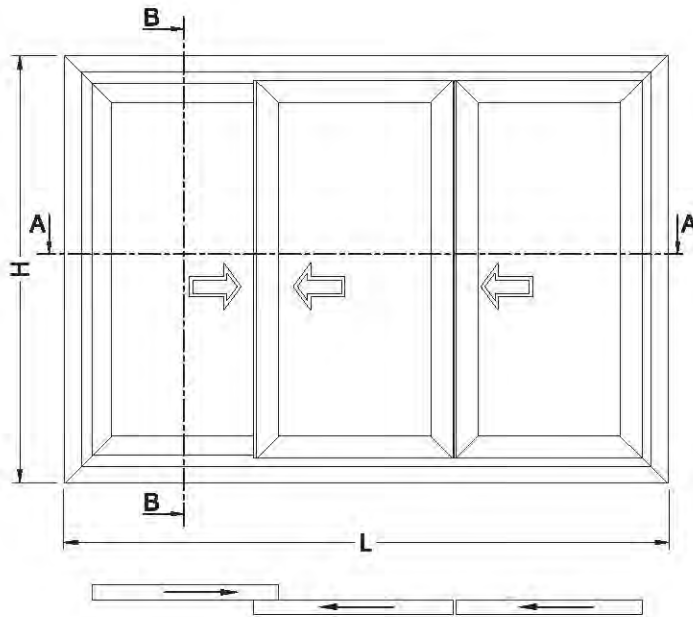
ACCESSORIES LIST

FIGURE	ACC. NO	QTY.	DESCRIPTION
	01 4210 0	16	Corner Joint
	01 6720 0	8	Alignment Angle
	01 7740 0	4	Alignment Angle
	01 8700 0	28	Alignment Angle
	20 2920 0	2	Single Roller Set
	22 1950 0	4	Anti-Dust Caps
	24 1950 0	8	Cover Caps
	26 1310 0	4	Shock Absorber
	26 2960 0	2	Security Gard
	26 2970 0	6	Alignment Guide
	28 1100 0	2	Drange Cover
	42 3400 0	2	Siwa Lateral Handle
	46 1500 0	1	Siwa Handle
	58 2050 0	2	Striker

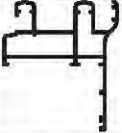


SEC B-B



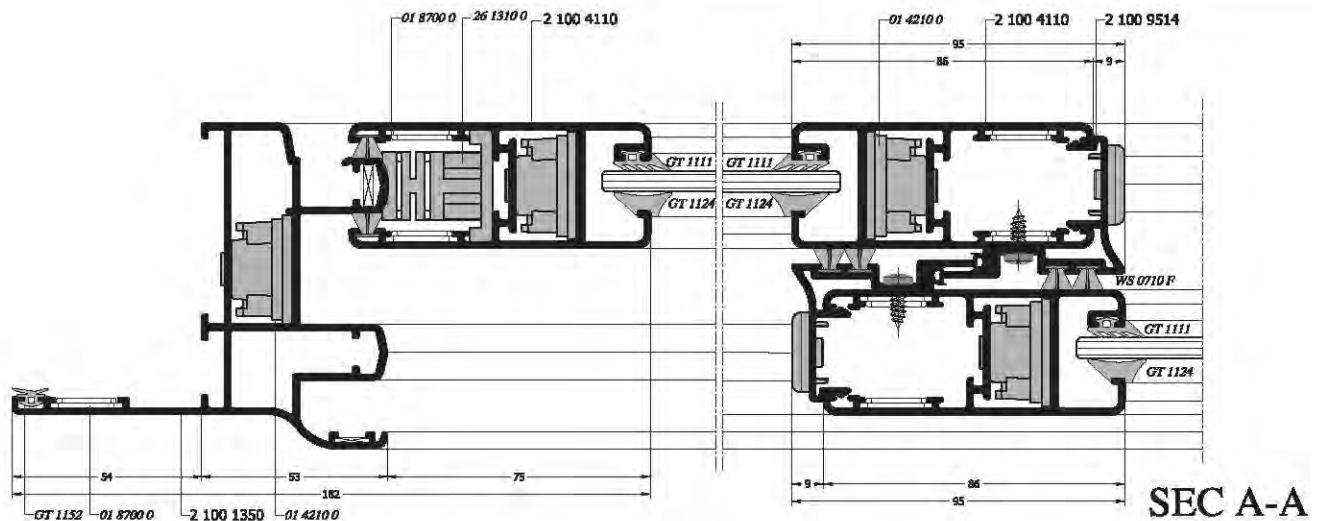


PROFILES CUTTING LIST

FIGURE	PROF. NO	QTY.	CUTTING LENGTH
	2 100 1350	2	$L + 108$
		2	$H + 108$
	2 100 4110	6	$\frac{L - 17}{3}$
		6	$H - 84$
	2 100 9514	2	$H - 84$
	2 100 9610	1	$H - 84$
SINGLE GLASS "4-6mm"		3	$\frac{L - 449}{3}$
			$H - 228$
ALL DIMENSIONS IN mm.			

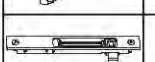
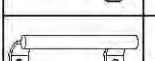
ACCESSORIES LIST

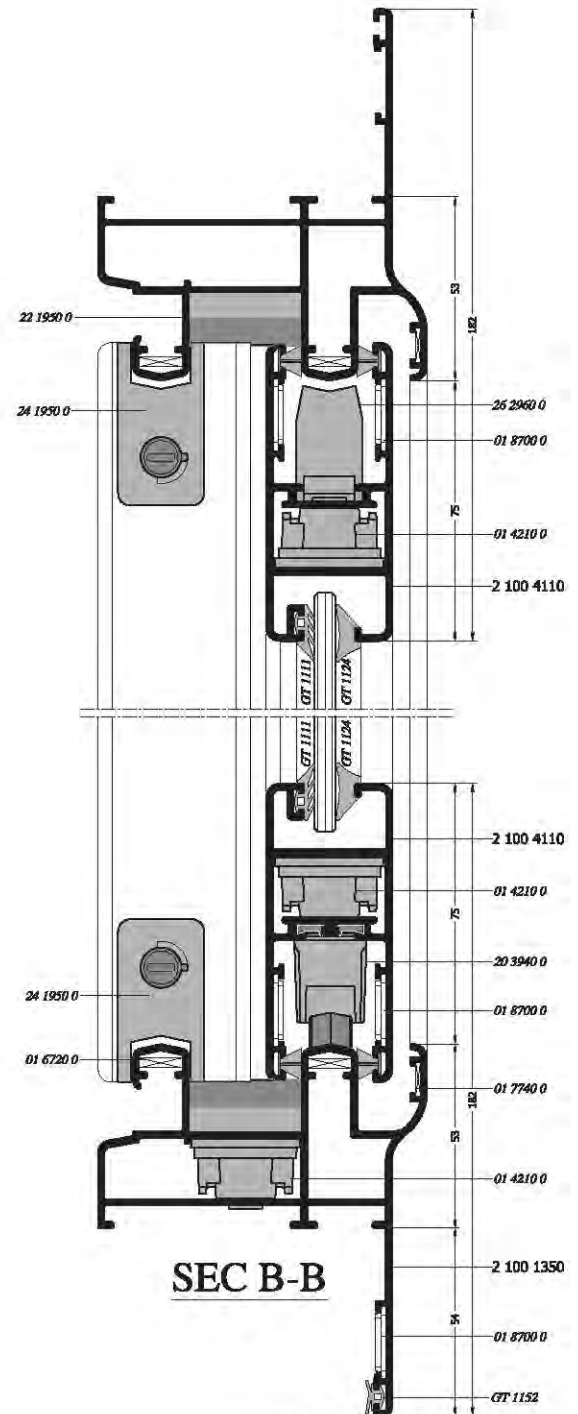
FIGURE	ACC. NO	QTY.	DESCRIPTION
	GT 1111	2L+6H	Glass Gasket
	GT 1124	2L+6H	Glass Gasket
	GT 1142	4H	Striker Gasket
	WS 7*10 R	4L+12H	Weather Strip
	GT 1152	2L+2H +432	Striker Gasket



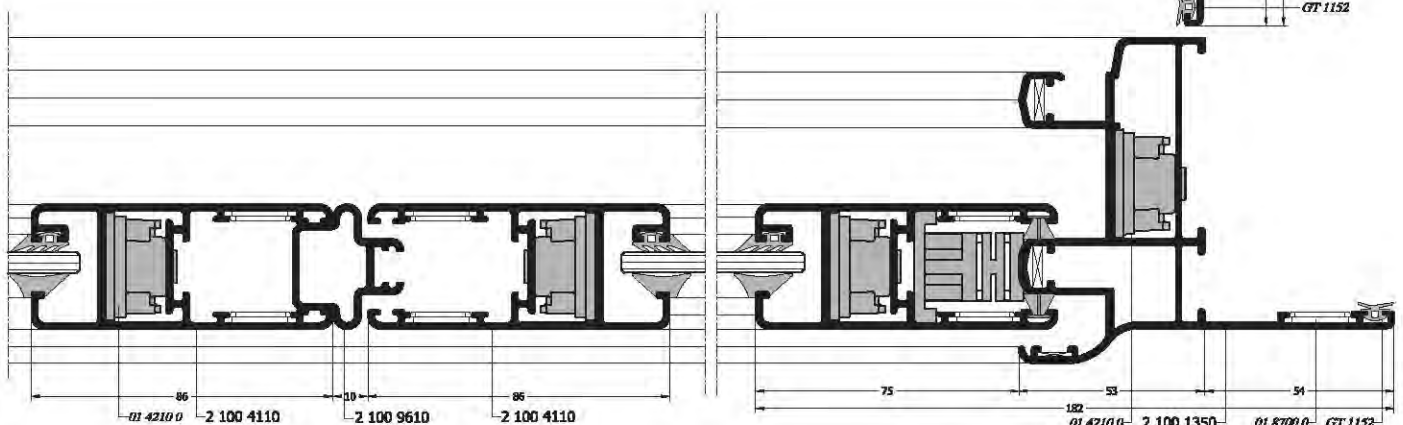


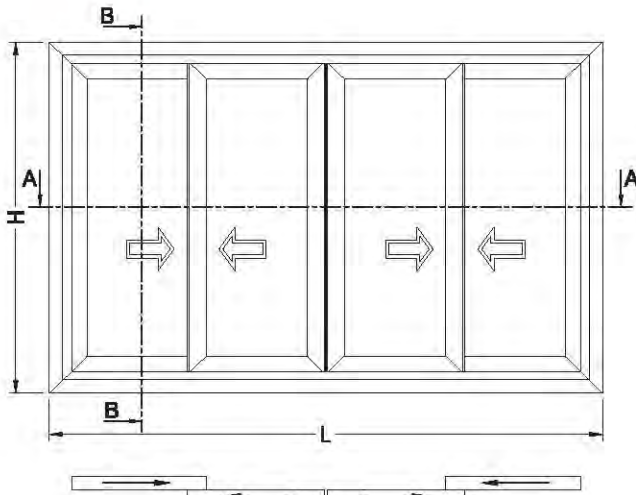
ACCESSORIES LIST

FIGURE	ACC. NO	QTY.	DESCRIPTION
	01 4210 0	16	Corner Joint
	01 6720 0	8	Alignment Angle
	01 7740 0	4	Alignment Angle
	01 8700 0	28	Alignment Angle
	20 2920 0	2	Single Roller Set
	22 1950 0	2	Anti-Dust Caps
	24 1950 0	4	Cover Caps
	26 1310 0	6	Shock Absorber
	26 2960 0	4	Security Gard
	26 2970 0	6	Alignment Guide
	28 1100 0	2	Drange Cover
	42 3400 0	3	Siwa Lateral Handle
	46 1500 0	1	Mina Handle
	58 2050 0	3	Striker

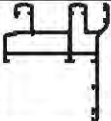


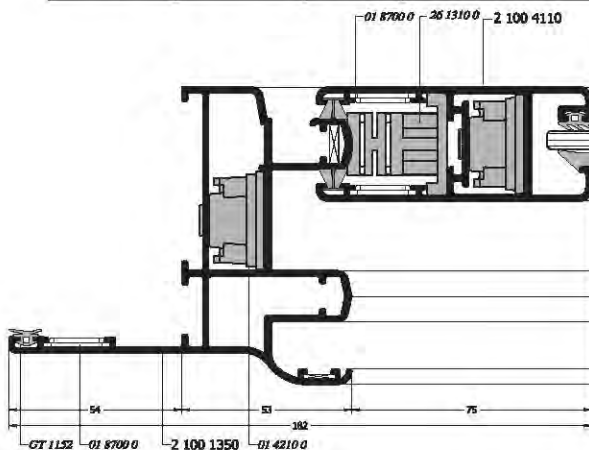
SEC B-B



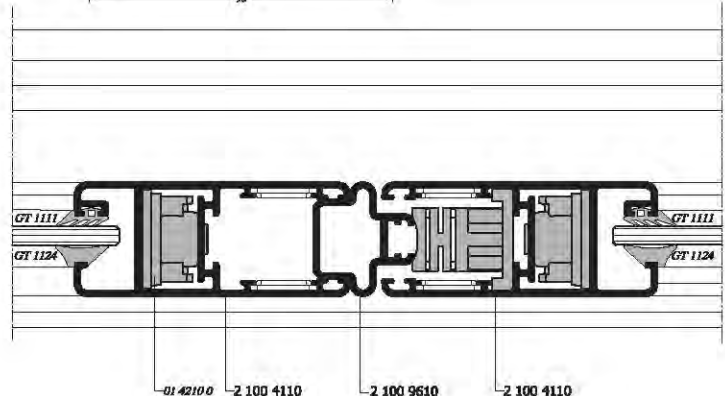
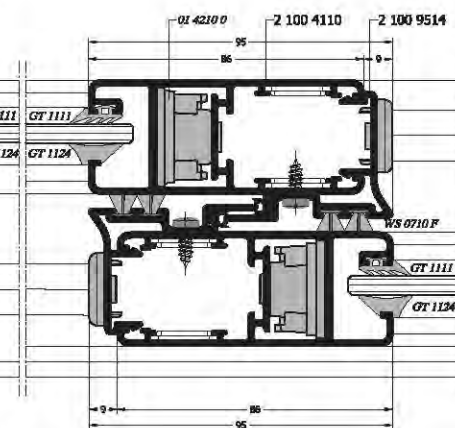


ACCESSORIES LIST			
FIGURE	ACC. NO	QTY.	DESCRIPTION
	GT 1111	2L+8H	Glass Gasket
	GT 1124	2L+8H	Glass Gasket
	GT 1142	4H	Striker Gasket
	WS 7*10 R	4L+14H	Weather Strip
	GT 1152	2L+2H +432	Striker Gasket

PROFILES CUTTING LIST			
FIGURE	PROF. NO	QTY.	CUTTING LENGTH
	2 100 1350	2	L + 108
		2	H + 108
	2 100 4110	6	L + 60 4
		6	H - 84
	2 100 9514	2	H - 84
	2 100 9610	1	H - 84
SINGLE GLASS"4-6mm"		3	L - 516 3
			H - 228
ALL DIMENSIONS IN mm.			



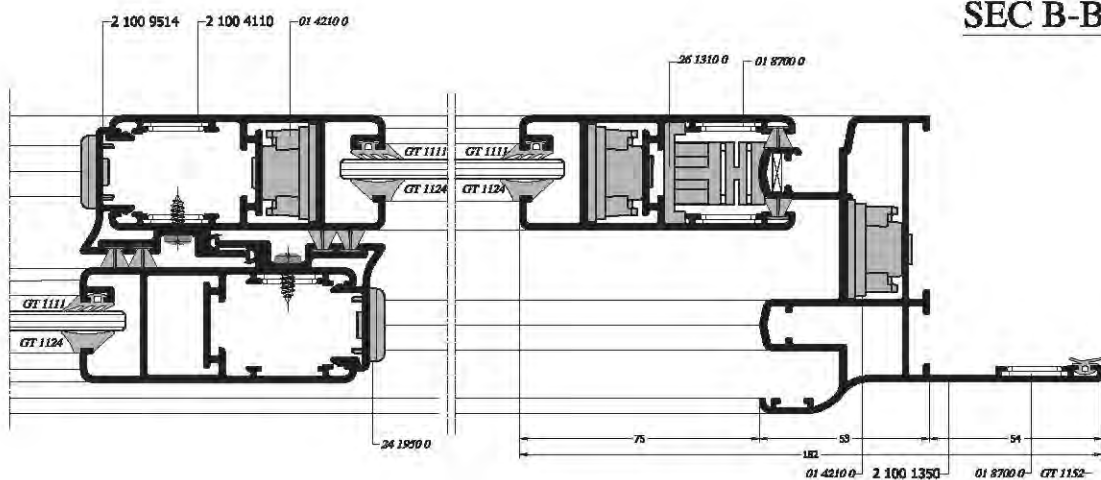
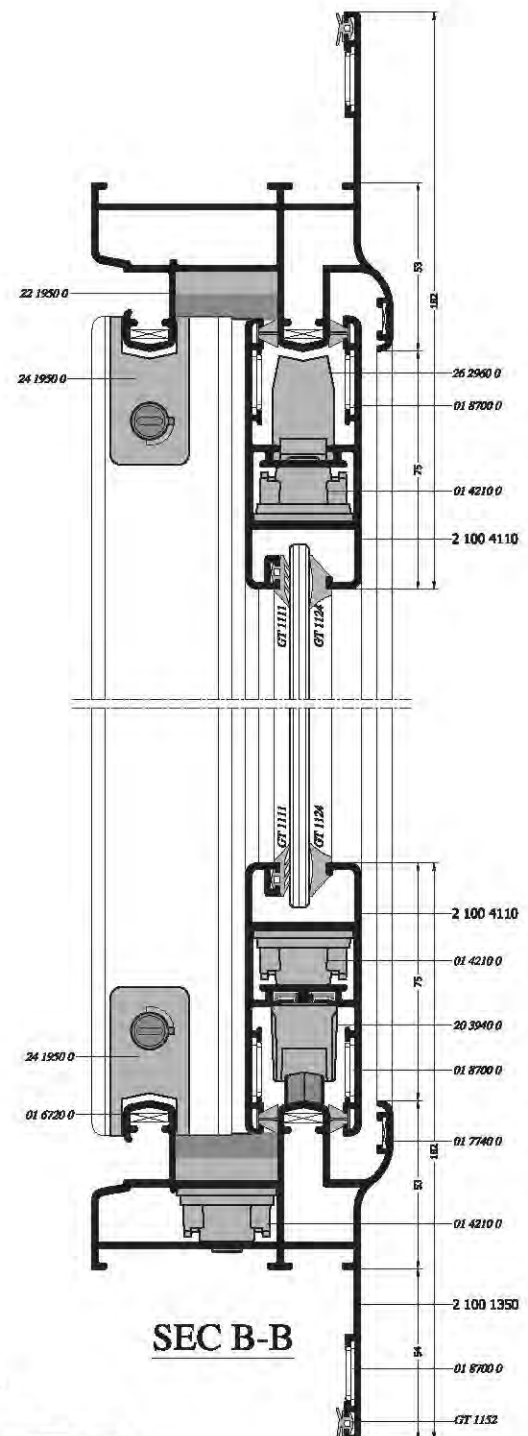
SEC A-A

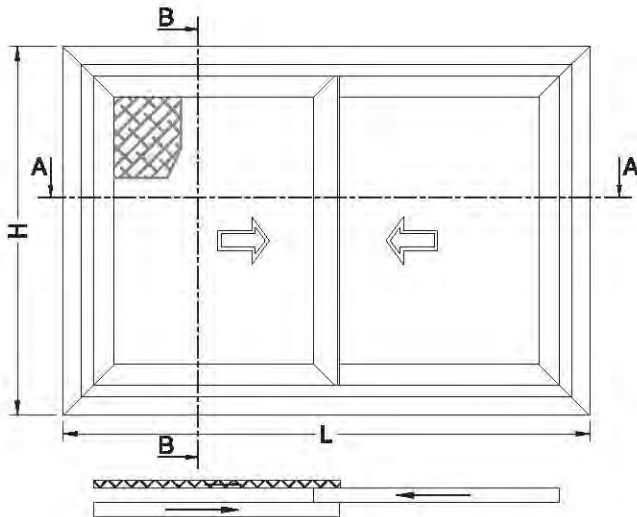




ACCESSORIES LIST

FIGURE	ACC. NO	QTY.	DESCRIPTION
	01 4210 0	20	Corner Joint
	01 6720 0	8	Alignment Angle
	01 7740 0	4	Alignment Angle
	01 8700 0	38	Alignment Angle
	20 2920 0	2	Single Roller Set
	22 1950 0	4	Anti-Dust Caps
	24 1950 0	8	Cover Caps
	26 1310 0	6	Shock Absorber
	26 2960 0	4	Security Gard
	26 2970 0	8	Alignment Guide
	28 1100 0	2	Drange Cover
	42 3400 0	2	Siwa Lateral Handle
	46 1500 0	1	Mina Handle
	48 2605 0	1	Isis Handle
	58 2050 0	2	Striker

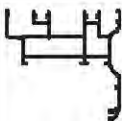


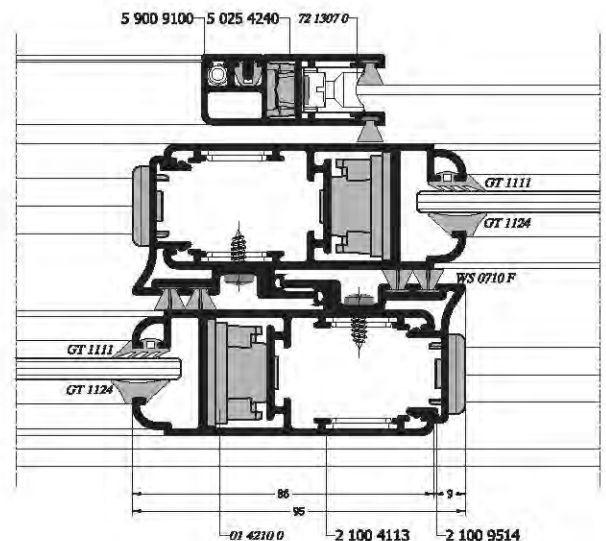
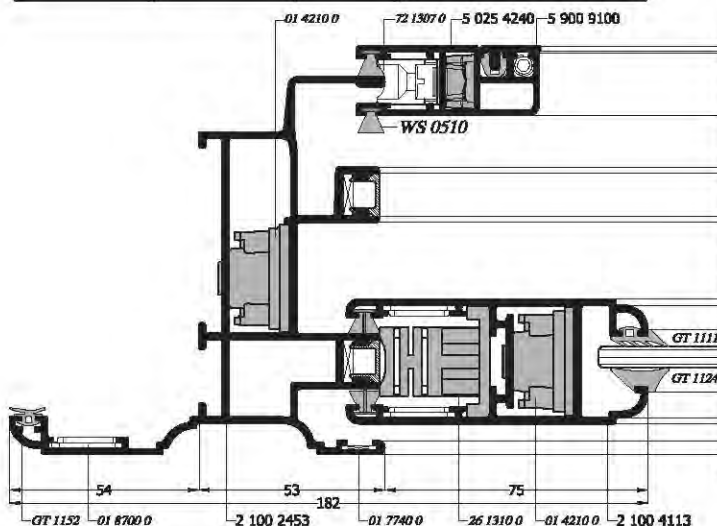


ACCESSORIES LIST

FIGURE	ACC. NO	QTY.	DESCRIPTION
	72 1202 0	1	Screen Roller Set
	RG1901	2L+4H	P.v.c Rail Cover
	GT 1111	2L+6H	Glass Gasket
	GT 1124	2L+6H	Glass Gasket
	GT 1142	4H	Striker Gasket
	GT 1152	2L + 2H	Striker Gasket
	WS 7*10 R	4L+12H	Weather Strip
	WS 5*10 R	2L+4H	Weather Strip
	GT 1181	2L+2H	Screen Round Gasket

PROFILES CUTTING LIST

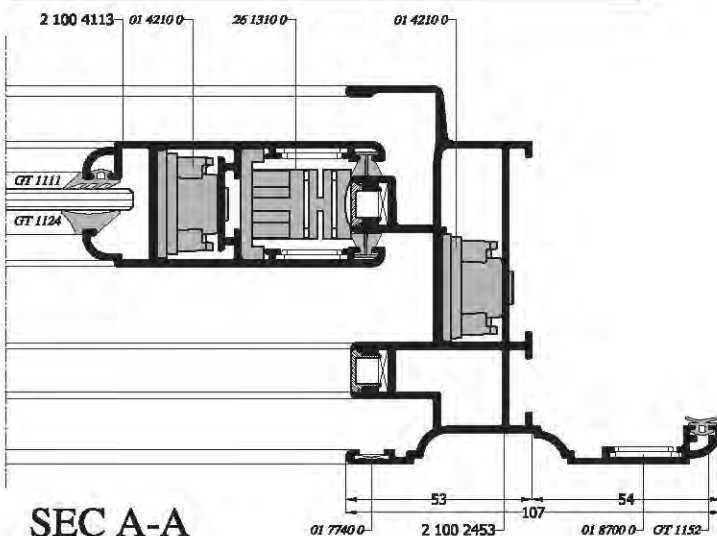
PROFILES CUTTING LIST			
FIGURE	PROF. NO	QTY.	CUTTING LENGTH
	2 100 2453	2	L + 108
		2	H + 108
	2 100 4113	4	$\frac{L - 7}{2}$
		4	H - 84
	2 100 9514	2	H - 84
	2 100 9210	2	L - 96
	5 025 4240	2	$\frac{L - 44}{2}$
		2	H - 90
	5 900 9100	2	$\frac{L - 186}{2}$
		2	H - 161
SINGLE GLASS*4-6mm"		2	$\frac{L - 295}{2}$
			H - 228
ALL DIMENSIONS IN mm.			



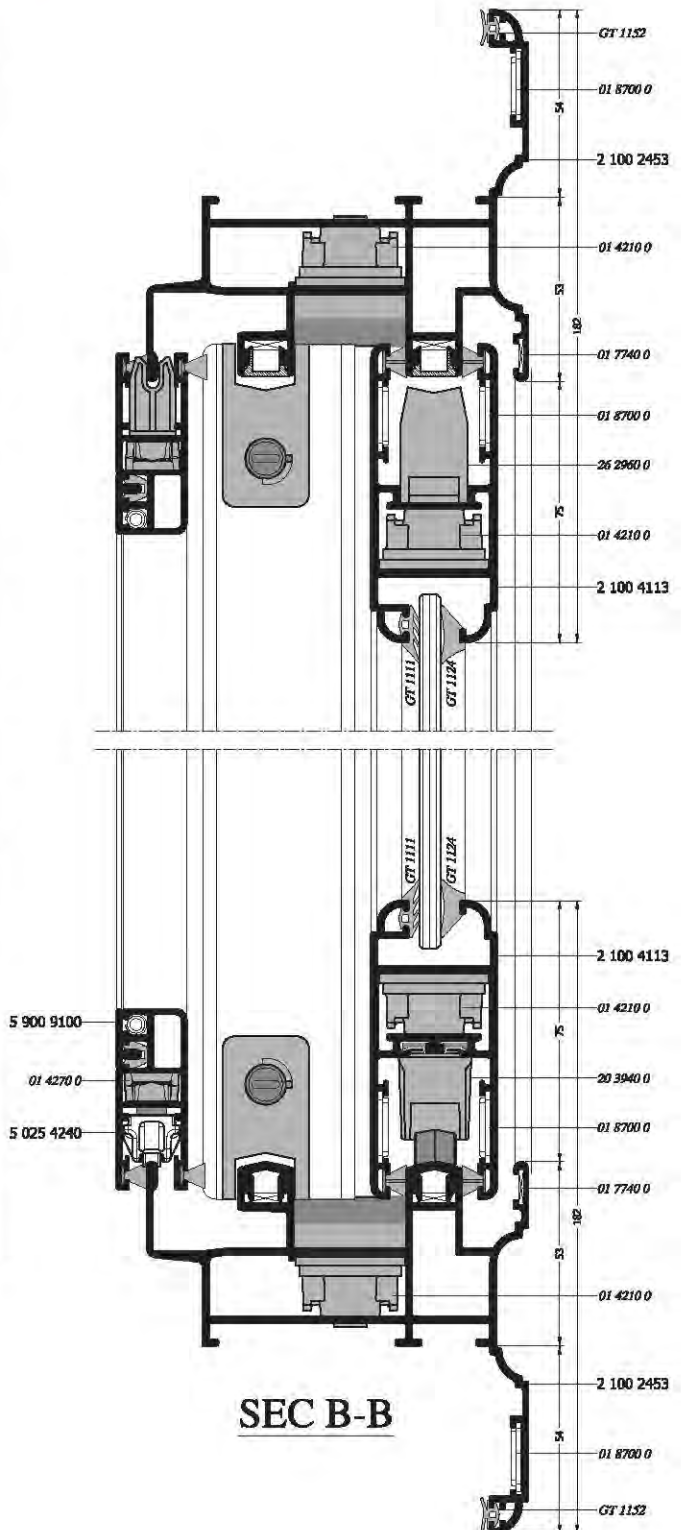


ACCESSORIES LIST

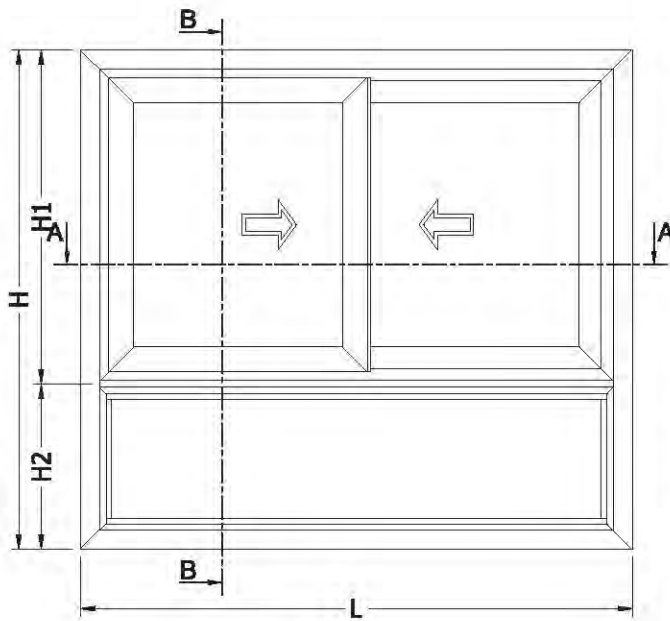
FIGURE	ACC. NO	QTY.	DESCRIPTION
	01 4210 0	12	Corner Joint
	01 6720 0	8	Alignment Angle
	01 7740 0	4	Alignment Angle
	01 8700 0	20	Alignment Angle
	20 2920 0	1	Single Roller Set
	22 1950 0	2	Anti-Dust Caps
	24 1950 0	4	Cover Caps
	26 1310 0	4	Shock Absorber
	26 2960 0	2	Security Gard
	26 2970 0	4	Alignment Guide
	28 1100 0	2	Drange Cover
	58 2070 0	2	Striker
	4234600	2	Rashed Lateral Handle
	46 2570 0	1	Setra Handle
	01 4270 0	4	Screen Corner Joint
	72 1307 0	4	Screen Sliders



SEC A-A



SEC B-B

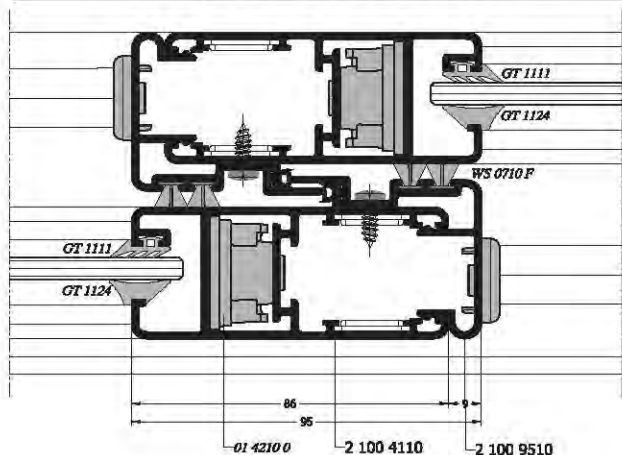
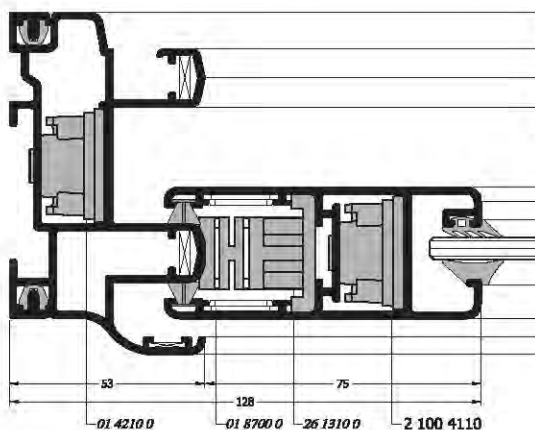


PROFILES CUTTING LIST

FIGURE	PROF. NO	QTY.	CUTTING LENGTH
	2 100 1320	2	L
		2	H1
	2 100 4110	4	$\frac{L - 7}{2}$
		4	H1 - 84
	2 100 9510	2	H1 - 84
	1 045 2082	2	L
		2	H2
	1 045 6140	2	L - 68
		2	H2 - 106
	9 001 1100	2	L
		2	H
	9 002 1200	1	L - 23
	SINGLE GLASS"4-6mm"	2	$\frac{L - 295}{2}$
			H1 - 228
	SINGLE GLASS"4-6mm"	1	L - 78
			H2 - 78

ALL DIMENSIONS IN mm.

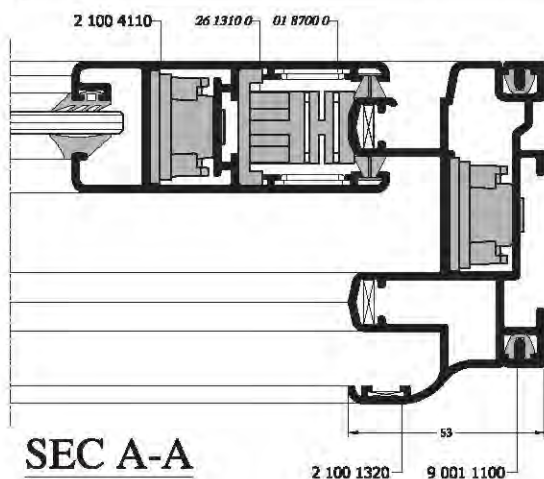
	GT 0111	4L+4H	Glass Gasket
	GT 0124	4L+4H	Glass Gasket
	GT 0142	2H1	Striker Gasket
	WS 0710 F	4L+8H1	Weather Strip



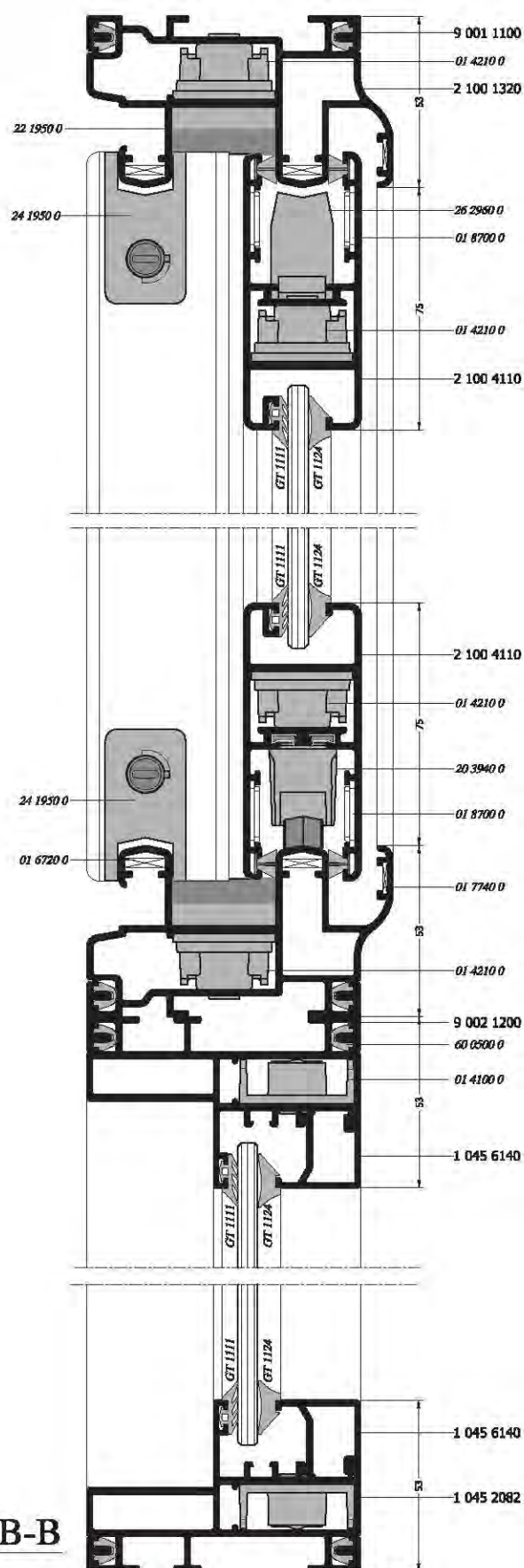


ACCESSORIES LIST

FIGURE	ACC. NO	QTY.	DESCRIPTION
	01 4100 0	4	Corner Joint
	01 4210 0	12	Corner Joint
	60 0500 0	$\frac{2L+2H}{0.30}$	Clip
	01 6720 0	8	Alignment Angle
	01 7740 0	4	Alignment Angle
	01 8700 0	16	Alignment Angle
	20 2920 0	1	Single Roller Set
	22 1950 0	2	Anti-Dust Caps
	24 1950 0	4	Cover Caps
	26 1310 0	4	Shock Absorber
	26 2960 0	2	Security Gard
	26 2970 0	4	Alignment Guide
	28 1100 0	2	Drange Cover
	42 3400 0	2	Siwa Lateral Handle
	46 1500 0	1	Siwa Handle
	58 2050 0	2	Striker



SEC B-B



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