

GEODE MX 52

DESIGN - FABRICATION

PRESSURE PLATE 6 to 42 mm



GEODE

Edition 1st quarter 2015

MX 52

Design

P. 2

Fabrication

P. 85

GEODE

MX 52

Design

■	Maintenance and cleaning	P. 3
■	Product concept	P. 4
■	Performance	P. 7
■	Use tables	P. 14
■	Inertia values	P. 23
■	Infill volume	P. 26
■	Exploded diagram	P. 34
■	Applications	
	Fixed grid aspect	P. 38
	Fixed and top-hung architectural façade grid aspect outward angle 0° to 10° maximum	P. 40
	Fixed architectural façade grid aspect outward corner 10° min to 20° max	P. 42
	Fixed architectural façade grid aspect inward corner 0° to 10° max	P. 44
	Fixed architectural façade grid aspect inward corner 10° min to 20° max	P. 46
	Top-hung grid aspect	P. 48
	Fixed horizontal 'trame' aspect	
	Fixed architectural façade horizontal 'trame' aspect outward angle 0° to 10° maximum	P.52
	Fixed architectural façade horizontal 'trame' aspect inward angle 0° to 10° maximum	P.54
	Top-hung horizontal 'trame' aspect	P. 56
■	Options	P. 58
■	Installation situations	P. 62
■	Summary of locks	P. 66
■	Summary of accessories, gaskets and tools	P. 71
■	Summary of profiles	P. 72
■	Nodes	P. 76
■	Numerical index	P. 84

Maintenance and cleaning

Profiles

We recommend the ADAL recommendations be observed.

When the surroundings do not have aggressive components as is usually the case in rural or low density urban areas, the frequency of cleaning is around once a year, but the frequency should be adapted according to more or less harsh environments. For regularly cleaned surfaces, cleaning can be done with a sponge using water and added neutral detergent. This operation can be combined with the glass cleaning.

Do not use an abrasive product.

Glazing

The cleaning is done with clean water or with neutral detergents, the tools used must not scratch the glass. During cleaning operations avoid creating deterioration that can constitute tearing initiations of the SSG bonding mastics or sealing beads. Some special glazing requires particular cleaning which must be specified by the supplier of the glass element.

Water evacuation

The various rebates, troughs and tracks must remain clean and clear to enable correct movement of the leaves and drainage of infiltration water.

The drainage, water evacuation and pressure balancing holes must remain clear and clean.

Ventilation

The air inlets arranged on the fittings or façades must be cleaned very regularly. Essentially cleaning consists in dusting and making sure nothing blocks them. The satisfactory hygrometry of the premises is directly linked to proper cleaning of the air inlets.

Hardware

The moving parts should be checked, adjusted and lubricated at least annually. The tightness of the screws should be especially checked. For intensive uses, work frequencies should be adapted to maintain the fittings in good condition and to satisfy the security requirements.

Lubricate the mechanisms (except for plastic mechanisms) with oil or grease free from acid or resin. Any deteriorated part should be changed.

Blind and sun-screen

Some fittings are combined with sun shielding products (venetian blind, adjustable sun-screen), these products require no special cleaning apart from regular cleaning using the same products as those used for the aluminium profiles. In the case of work following faulty operation, the work is carried out by qualified personnel.

SSG window

In the event of problem relating to glueing or accidental glass breakage, a workshop repair is possible according to the methods given in the specs of CSTB 3488

Product concept

Product concept

Geode is a system of profiles and accessories, with single framework of 52 mm facing, for producing aluminium façades.

STRUCTURE

- Framework of mullions and transoms 52 mm module.
- Mullions and transoms with depth from 40 to 250 mm.
- Interior reinforcements by aluminium or steel (standard) splice plates defined according to the static dimensioning rules for the façade.
- Mullion/transom link by straight cut
- Assembly by connector fixed on the transom (machining with drilling) for front installation. Specific linking part for installation with advance.
- Sealing by mullion/transom assemblies by injection of butyl sealing mastic in the connector (patent).
- Sealing of structure ensured outside by aluminium long clamps equipped with EPDM gaskets + plugs. EPDM gaskets inside Drainage of infiltration water through clamp and horizontal caps.
- Infill thicknesses from 6 to 42 mm.
- Thermal insulation ensured by horizontal and vertical PVC separator gasket installed between the structure and exterior clamps.
- Clipped outside aluminium caps.

ASPECTS**Grid**

- Caps 52 mm facing clipped on aluminium long clamps.
- Various shapes rectangular, hollow bottom, ribbed, metal aspect.
- Inward and outward angles 0° minimum to 10° maximum.
- Inward and outward angles 10° minimum to 20° maximum with corner rebate clamp and expander.

Horizontal 'trame'

- Horizontal hold the same as Grid version with transom cap with ogive or rounded shape.
- Use of SSG glazing certified CEKAL cut edges. "2 sides" calculations in compliance with DTU 39.
- Vertical, with or without presser infill is held along the free edge (2.00 m maximum, see tables).
- Hollow gasket 22 mm between mullions.
- Inward and outward angles 10° minimum to 20° maximum.

CONCEALED OPENING SASHES

Integration of concealed sashes without modifying the external appearance of the façade: top-hung, tilt-turn, side-hung, bottom-hung, emergency opening sashes SSG type installed by qualified companies in compliance with Technal technical directives and documents and the mastic supplier

Glueing

The glueing is done on aluminium bar (manufactured

under CEBTP control) by means of bonding mastic (with label SNJF or technical advice).

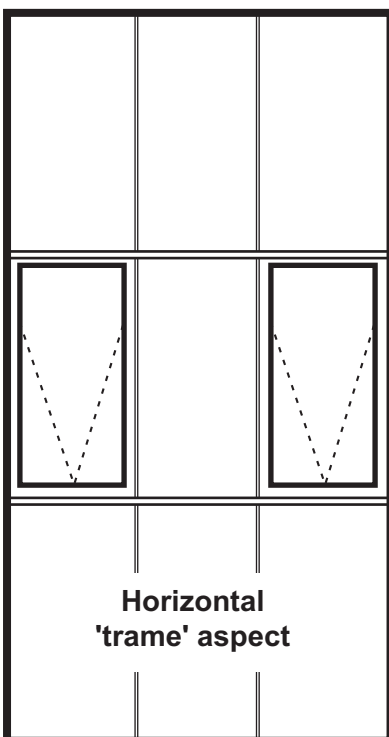
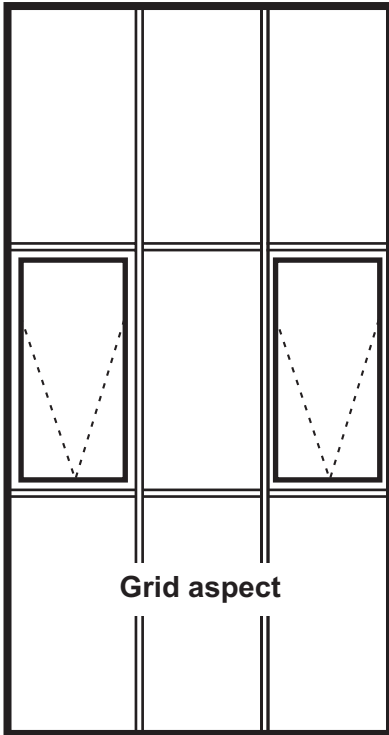
This principle is with technical advice from CSTB.

Glazing

In conformity with technical advice, especially under label CEKAL type SSG. Choice of thickness 24 and 31 mm. Cut edges 4 sides.

Top-hung

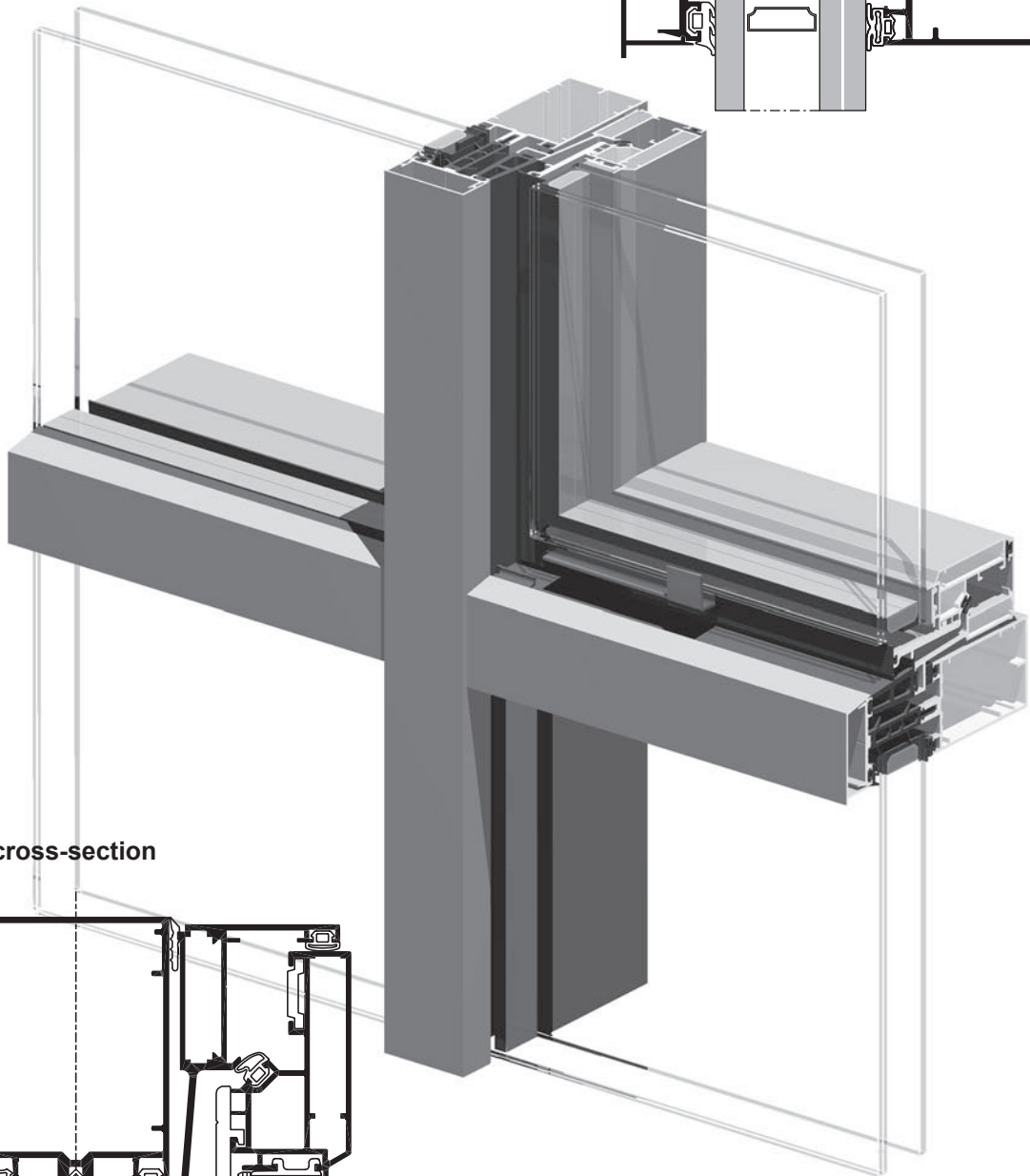
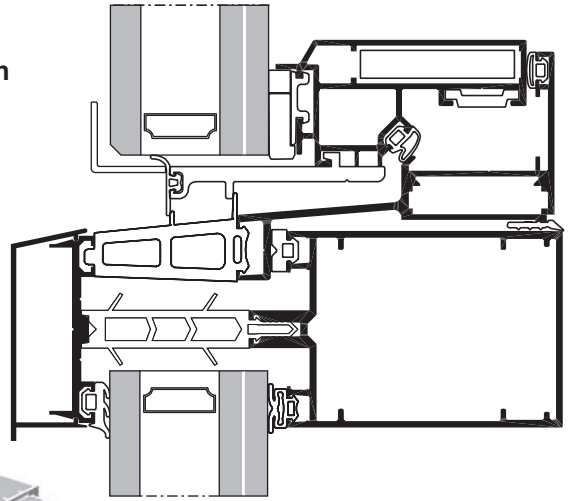
- Adjustable stainless steel limiter fittings.
- Multipoint central closing.
- Frame/sash sealing with EPDM gasket.



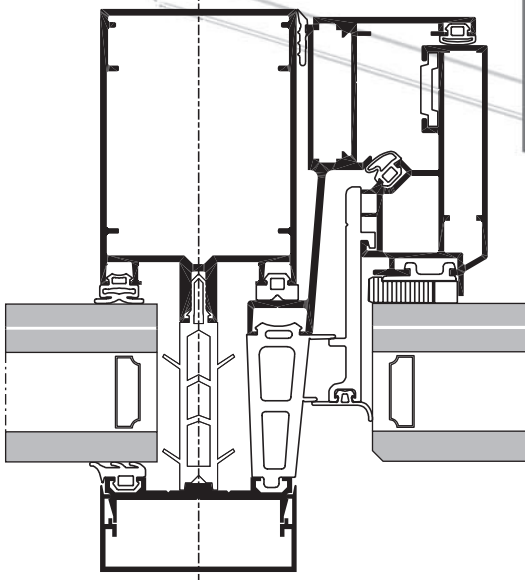
Product concept

Fixed and top-hung grid aspect

Vertical cross-section



Horizontal cross-section



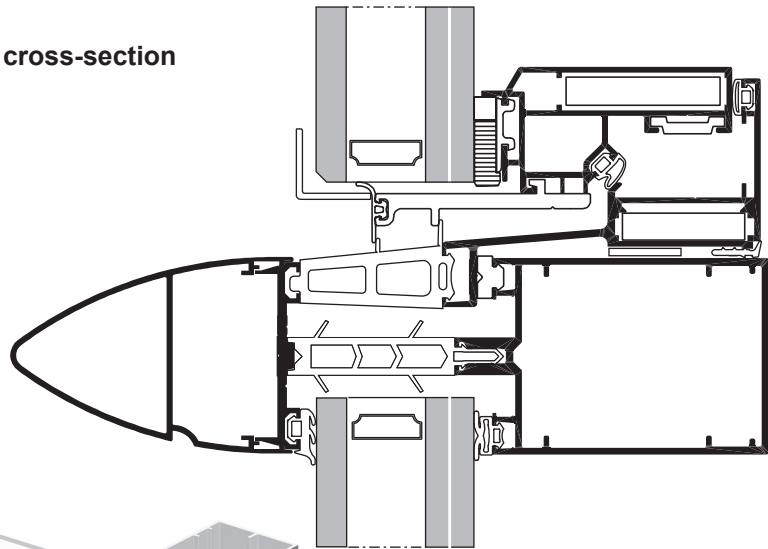
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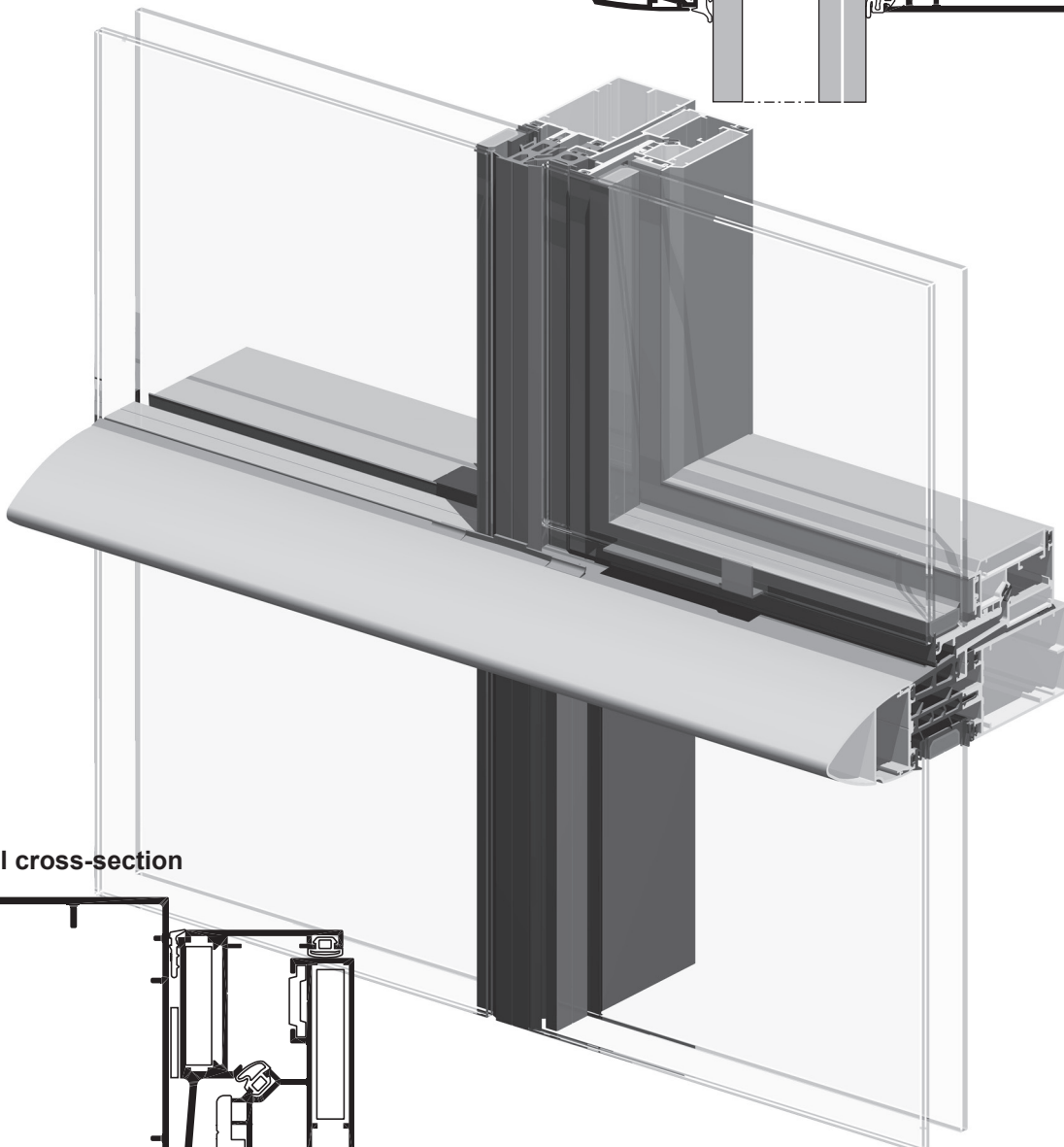
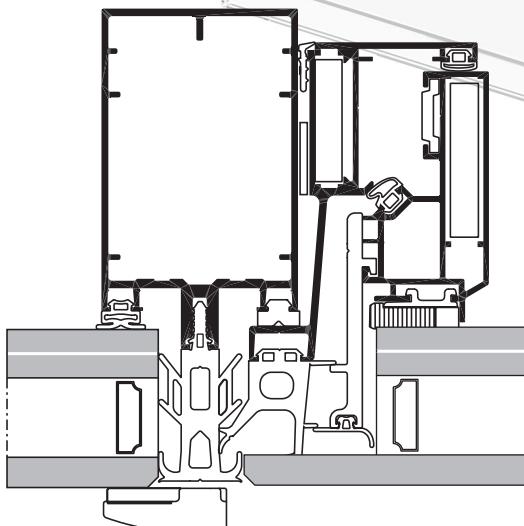
Product concept

Fixed and top-hung horizontal 'trame' aspect

Vertical cross-section



Horizontal cross-section



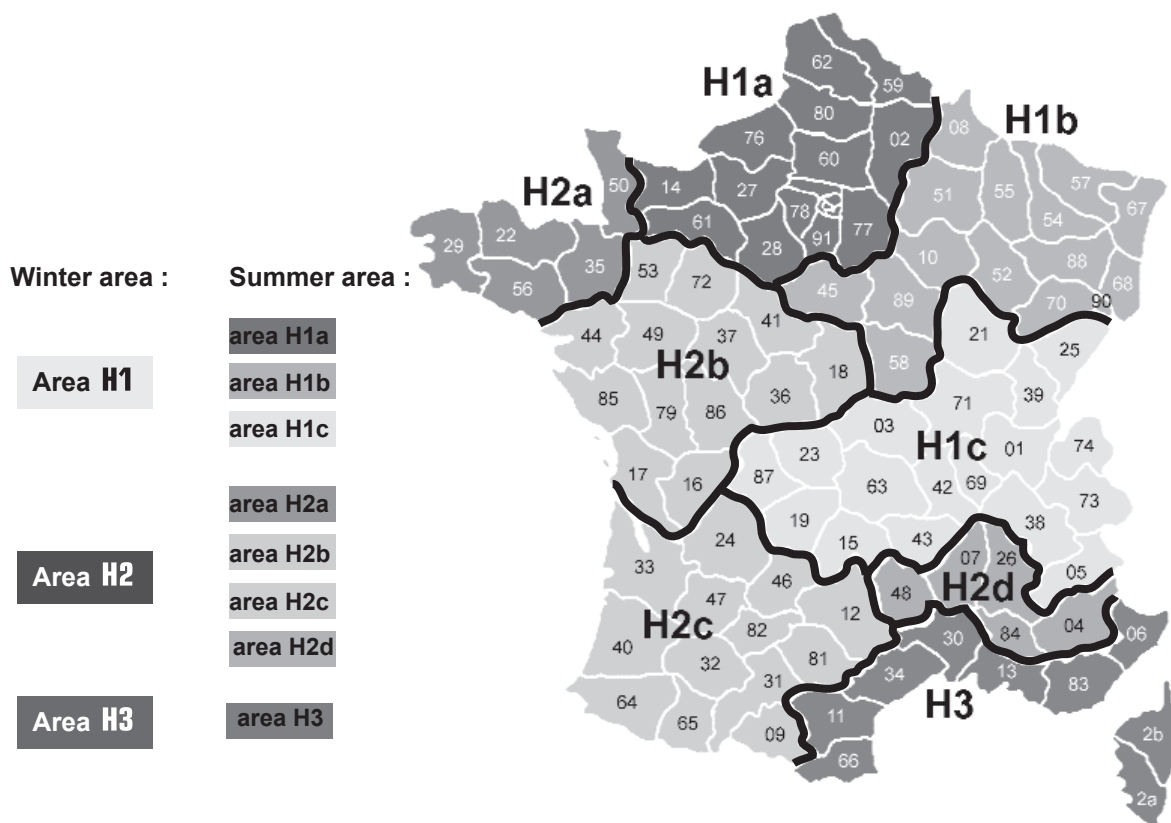
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Performance

Thermal performance

■ Regulations: Thermal insulation of new buildings (RT 2005)

New building and extension with building permit		Area H1 - H2	Area H3 < 800 m
	Reference values: Transparent glass walls < 50% of vertical walls of the building	Ucw	2.1
	Reference value: Transparent glass walls = 100% * of vertical walls of the building	Ucw	1.2
	Maximum authorised value with compensation (walls, floors, roofs)	Ucw	2.6



■ Regulations: Thermal insulation of existing buildings (Renovation)

Applicable for estimates accepted after 31/10/2007			All areas	
Tertiary and Housing	Maximum values authorised	Uw or Ujn	light façades then	2.4 2.3 after 30/06/2008

Performance

Thermal performance

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Regulations: summer comfort for new buildings

- For non-air conditioned buildings

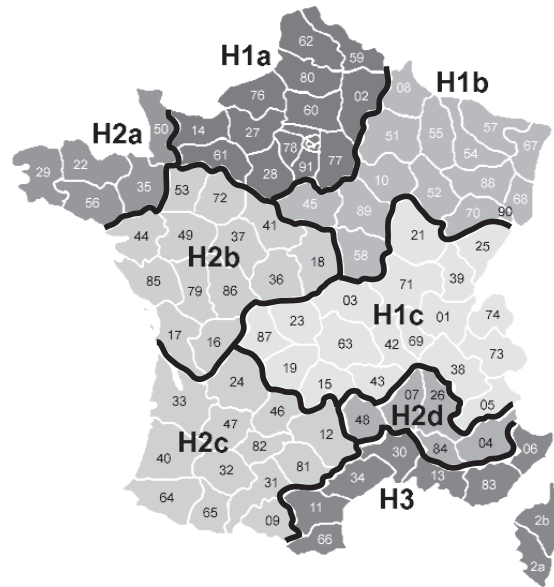
Building equipped with closings

Buildings equipped with closings meeting the thermal regulations for summer comfort. Note: houses generally equipped with closings meet the regulations.

Buildings not equipped with closings

The building must comply with T° maximum of conventional summer (Tic ref) calculated from the reference values of the solar factors Sw below.

areas	altitudes		
H1a and H2a	All		
H1b and H2b	> 400 m	≤ 400 m	
H1c and H2c	> 800 m	≤ 800 m	
H2d and H3		> 400 m	≤ 400 m
General case			
North vertical bay	0.65	0.45	0.25
Not north vertical bay	0.45	0.25	0.15
Horizontal bay	0.25	0.15	0.10
Room bays with passing occupation			
Vertical bay	0.65	0.65	0.45
Horizontal bay	0.45	0.45	0.45
Bays exposed to noise (BR2 or BR3 apart from rooms with passing occupation)			
North vertical bay	0.45	0.25	0.25
Not north vertical bay	0.25	0.15	0.15
Horizontal bay	0.15	0.10	0



Winter area :

Summer area :

Area H1

- area H1a
- area H1b
- area H1c

Area H2

- area H2a
- area H2b
- area H2c
- area H2d

Area H3

area H3

In practice 0 means the following are prohibited in areas exposed to noise:

- glass roofs
- veranda roofs integrated with heated volume.

BR2 and BR3 near noisy streets and routes or airports: see tables of order (Appendix 2) according to the distance of the building from these infrastructures.

- For air conditioned buildings

Generally, air conditioning does not change a building's right to consume, thus the building has to compensate for the consumption due to air conditioning.

Special cases for hospitals, offices, etc.

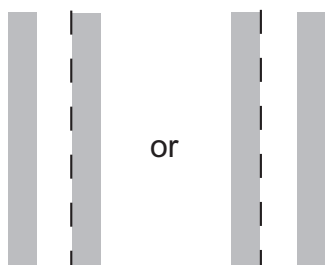
In a noisy area and very hot climate area, air conditioning has a right to consume calculated on the basis of a reference solar factor = 0.15
summer solar factor ≤ 0.15

Performance

Thermal performance

■ Glazing Ug insulation coefficient

Vertical glazing = slope > 60°



Ug values according to glazing composition (as per ThU 2005 and EN 673)

commercial brands / certified emissivities <i>non-exhaustive list, for information</i>		double glazing									
		Ug glazing 4 + 4 or 6 + 6			Ug glazing 4 + 10 or 4 + FA 44.1			Ug glazing FA 64.1 + FA 44.1			
		thick- ness in (mm)	air	argon 85%	thick- ness in (mm)	air	argon 85%	thick- ness in (mm)	air	argon 85%	
iPlus neutral S (Interpane) Planibel TopNT (Glaverbel) Planitherm FuturN (SGG)	0.05	10	22	1.9	1.5	24	1.9	1.5			
		12	24	1.7	1.4	26	1.7	1.4			
		14	26	1.5	1.2	28	1.5	1.2			
		16	28	1.4	1.2	30	1.4	1.2			
		18	30	1.4	1.2	32	1.4	1.2			
		20	32	1.5	1.2	34	1.4	1.2	39	1.4	1.2
Clima Guard NL (Guardian) iPlus S (Interpane) iPasol neutral 52/29 iPasol blue 40/23 Optitherm SN (Pilkington) Planibel Top N (Glaverbel)	0.04	10	22	1.8	1.5	24	1.8	1.5			
		12	24	1.6	1.3	26	1.6	1.3			
		14	26	1.5	1.2	28	1.5	1.2			
		16	28	1.4	1.2	30	1.4	1.2			
		18	30	1.4	1.2	32	1.4	1.2			
		20	32	1.4	1.2	34	1.4	1.2	39	1.4	1.2
Clima Guard Premium (Guardian) Sun-Guard Super Neutral 70 iPlus SE and Sun (Interpane) iPasol neutral 73/39 Optitherm S3 and Suncool (Pilkington) Planibel Energy N and NT (Glaverbel) Planistar (SGG) Planitherm ultra N (SGG)	0.03	8	20	2.1	1.7	22	2.1	1.7			
		10	22	1.8	1.5	24	1.8	1.5			
		12	24	1.6	1.3	26	1.6	1.3			
		14	26	1.5	1.2	28	1.4	1.2			
		16	28	1.4	1.1	30	1.4	1.1			
		20	32	1.4	1.2	34	1.4	1.2	39	1.4	1.2
iPasol neutral 50/25 - 68/34 IPasol nature 67/34 (Interpane) Sun-Guard Super Neutral 62 Sun-Guard Super Neutral 40	0.02	14	26	1.4	1.1	28	1.4	1.1			
		16	28	1.3	1.1	30	1.3	1.1			
		18	30	1.3	1.1	32	1.3	1.1			
		20	32	1.4	1.1	34	1.3	1.1	39	1.3	1.3

The emissivity values given comply with the CEKAL database.

The most efficient glazing can be manufactured with insulating separator which significantly improves the Ucw performance of the light façades. The performance tables of our fittings include this option.

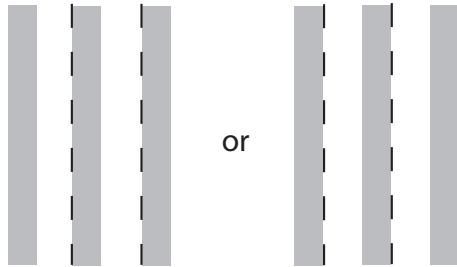
Performance

Thermal performance

TECHNICAL

Glazing Ug insulation coefficient

Vertical glazing = slope > 60°



Ug values according to glazing composition (as per ThU 2005 and EN 673)

commercial brands / certified emissivities <i>non-exhaustive list, for information</i>		triple glazing						
		thickness of air or argon knife (mm)	Ug glazing 4 + 4 + 4			Ug glazing 6 + 4 + 10		
			thickness in (mm)	air	argon 85%	thickness in (mm)	air	argon 85%
iPlus neutral S (Interpane) Planibel TopNT (Glaverbel) Planitherm FuturN (SGG)	0.05	8	28	1.3	1.0	36	1.3	1.0
		10	32	1.1	0.9	40	1.1	0.9
		12	36	1.0	0.8	44	1.0	0.8
		14	40	0.9	0.7	48	0.9	0.7
		15	42	0.8	0.7	50	0.8	0.7
		16	44	0.8	0.7	52	0.8	0.7
		18	48	0.8	0.7	56		
		20	52	0.8	0.7	60		
Clima Guard NL (Guardian) iPlus S (Interpane) iPasol neutral 52/29 iPasol blue 40/23 Optitherm SN (Pilkington) Planibel Top N (Glaverbel)	0.04	8	28	1.3	1.0	36	1.3	1.0
		10	32	1.1	0.9	40	1.1	0.9
		12	36	1.0	0.8	44	1.0	0.8
		14	40	0.9	0.7	48	0.9	0.7
		15	42	0.8	0.7	50	0.8	0.6
		16	44	0.8	0.7	52	0.8	0.7
		18	48	0.8	0.7	56		
		20	52	0.8	0.7	60		
Clima Guard Premium (Guardian) Sun-Guard Super Neutral 70 iPlus SE and Sun (Interpane) iPasol neutral 73/39 Optitherm S3 and Suncool (Pilkington) Planibel Energy N and NT (Glaverbel) Planistar (SGG) Planitherm ultra N (SGG)	0.03	8	28	1.3	1.0	36	1.3	1.0
		10	32	1.1	0.8	40	1.1	0.8
		12	36	0.9	0.7	44	0.9	0.7
		14	40	0.8	0.7	48	0.8	0.6
		15	42	0.8	0.6	50	0.8	0.6
		16	44	0.8	0.6	52	0.8	0.6
		18	48	0.8	0.6	56		
		20	52	0.8	0.6	60		
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		10	32	1.1	0.8	40	1.0	0.8
		12	36	0.9	0.7	44	0.9	0.7
		14	40	0.8	0.6	48	0.8	0.6
		15	42	0.8	0.6	50	0.8	0.6
		16	44	0.8	0.6	52	0.7	0.6
		18	48	0.8	0.6	56		
20	52	0.8	0.6	60				

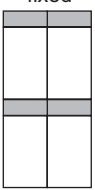
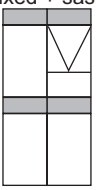

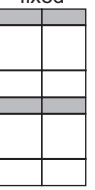
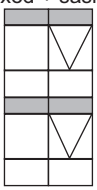
The emissivity values given comply with the CEKAL database.

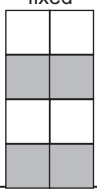

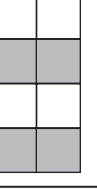
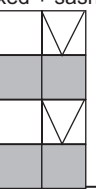

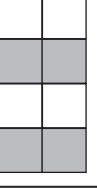
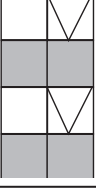
The most efficient glazing can be manufactured with insulating separator which significantly improves the Ucw performance of the light façades. The performance tables of our fittings include this option.

Performance

Thermal performance

■ Ucw values

GEODE grid aspect 3 'trames' per floor L = 1.35 m x H slab nosing = 0.70 m x H vision = 1.50 m x H apron = 1.00 m Coefficient U_g glazing (W/m ² .K)	Coefficient Ucw of bare façade (W/m².K) apron and glazed vision part + opaque slab nosing (i.e. 78% glazed seen from exterior (100% glazed seen from interior - RT 2005)			
	maximum thickness fixed glazing 42 mm fixed 	maximum thickness sash glazing 42 mm fixed + sash 	 fixed 	Example of panel polystyrene insulation ACERMI extruded thickness 50 mm Up = 0.54 fixed + sash 
	0.6 + insulating separator 0.6 0.7 0.8 0.9 1.0 1.1 + insulating separator 1.1 1.2 1.3 1.4 1.5 1.6 1.7 1.8 1.9	0.9 1.0 1.1 1.1 1.2 1.2 1.3 1.3 1.3 1.3 1.4 1.4 1.5 1.5 1.6 1.6 1.7 1.7 1.8 1.8 1.9	0.9 1.0 1.1 1.1 1.2 1.2 1.3 1.3 1.3 1.3 1.4 1.4 1.5 1.5 1.6 1.6 1.7 1.7 1.8 1.8 1.9	0.9 1.1 1.1 1.2 1.2 1.3 1.3 1.3 1.3 1.4 1.4 1.5 1.5 1.6 1.6 1.7 1.7 1.8 1.8 1.9 2.0

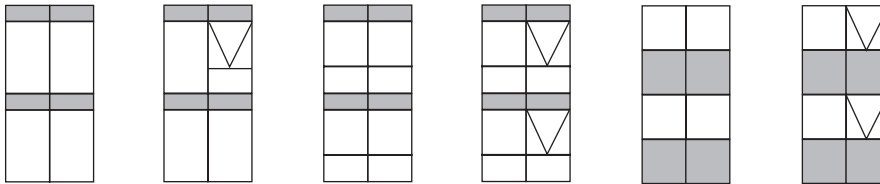
GEODE grid aspect 2 'trames' per floor L = 1.35 m x H vision = 1.50 m x H apron + nosing of slab = 1.70 m Coefficient U_g glazing (W/m ² .K)	Coefficient Ucw of bare façade (W/m².K) opaque apron (i.e. 47% glazed seen from exterior (60% glazed seen from interior - RT 2005)				
	polystyrene insu- lation ACERMI extrud- ed thickness 30 mm Up = 0.85 fixed 	 fixed 	polystyrene insu- lation ACERMI extrud- ed thickness 50 mm Up = 0.54 fixed + sash 	 fixed 	polystyrene insu- lation ACERMI extruded thickness 80 mm Up = 0.35 fixed + sash 
	0.6 + insulating separator 0.6 0.7 0.8 0.9 1.0 1.1 + insulating separator 1.1 1.2 1.3 1.4 1.5 1.6 1.7 1.8 1.9	1.0 1.1 1.1 1.2 1.2 1.3 1.3 1.3 1.3 1.4 1.4 1.4 1.4 1.5 1.5 1.6 1.6 1.6 1.6 1.6	0.9 1.0 1.0 1.0 1.1 1.1 1.1 1.1 1.1 1.1 1.2 1.2 1.2 1.2 1.3 1.3 1.3 1.4 1.4 1.5	0.9 1.0 1.1 1.1 1.1 1.1 1.1 1.1 1.1 1.1 1.2 1.2 1.2 1.2 1.3 1.3 1.3 1.4 1.4 1.5	0.8 0.9 0.9 0.9 1.0 1.0 1.0 1.0 1.0 1.0 1.1 1.1 1.1 1.1 1.1 1.1 1.1 1.2 1.2 1.3

Performance

Thermal performance

Values: Sw Winter - Sw Summer: Solar factor

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Sg solar factor of glazing alone (Sg = 0.9 x g)	solar factor Sw Winter absorption according to profile colours	
	0.4 white, yellow orange, light red	1.0 black, dark brown, dark blue
0.1	0.10	0.10
0.2	0.19	0.19
0.3	0.28	0.28
0.4	0.37	0.38
0.5	0.47	0.47
0.6	0.56	0.56
0.7	0.65	0.66

Sg solar factor of glazing alone (Sg = 0.9 x g) or with possible solar protection	solar factor Sw Summer absorption according to colours	
	0.4 white, yellow orange, light red	1.0 black, dark brown, dark blue
0.1	0.10	0.10
0.2	0.19	0.20
0.3	0.28	0.29
0.4	0.38	0.38
0.5	0.47	0.47
0.6	0.56	0.57
0.7	0.65	0.66

**Performance: weather
and endurance**

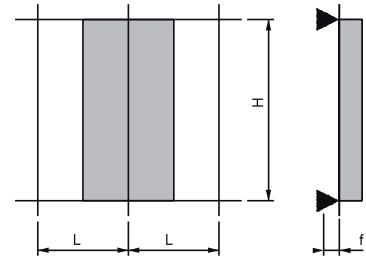
INTEGRAL TOP-HUNG WINDOW		
TEST TYPE	RESULTS	TEST REPORT No
AEV	A4 E1050 C3	 07-10-001
GRID FAÇADE		
TEST TYPE	RESULTS	TEST REPORT No
AEV	A4 E1200 V : No deterioration under sudden pressure of 1200 Pa	 R09-07-01
HORIZONTAL TRAME FAÇADE		
TEST TYPE	RESULTS	TEST REPORT No
AEV	AE (less than 1,5 m³/h/m² with pressure at 600 Pa) E7 V : No deterioration under sudden pressure of 1800 Pa	 R0108-01

Use tables

2 supports

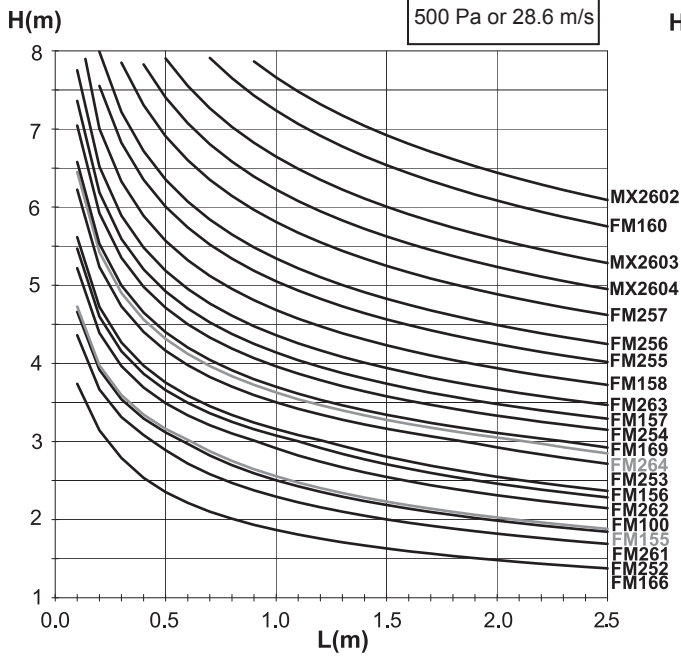
Rectangular type load

L(m) = Mullion distance
H(m) = Height between 2 supports

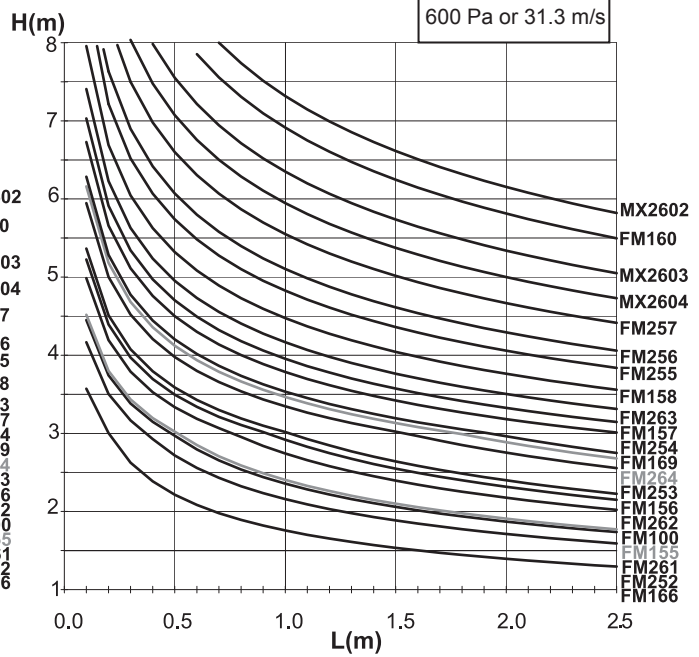


NOTE : These tables help you choose the mullions but only full static calculation can justify the strength and stability

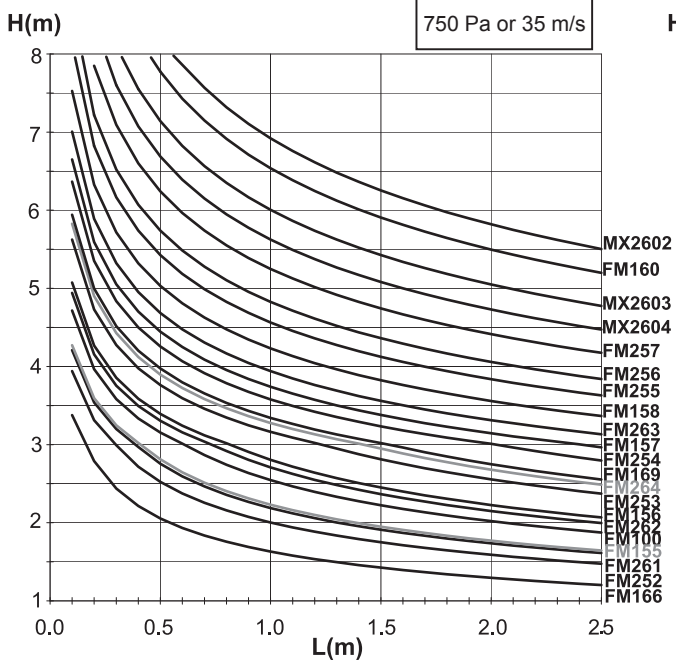
Curves F/H = 1/200 and 15 mm



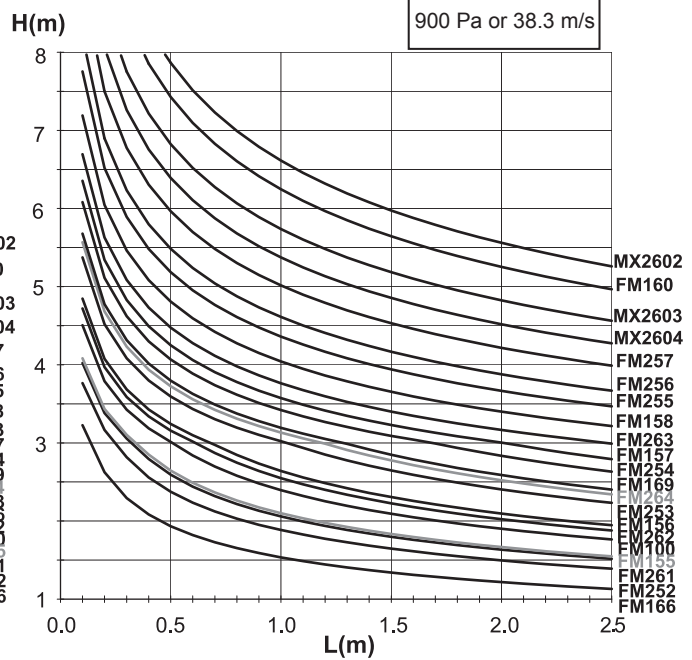
Curves F/H = 1/200 and 15 mm



Curves F/H = 1/200 and 15 mm



Curves F/H = 1/200 and 15 mm



Permitted limit for this application 1/200 and deflection of 15 mm

Use tables

2 supports with reinforcement

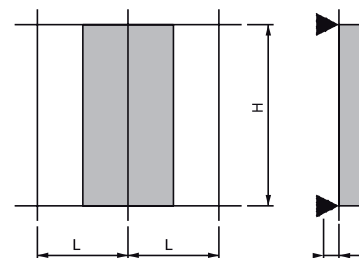
Rectangular type load

L(m) = Mullion distance

H(m) = Height between 2 supports

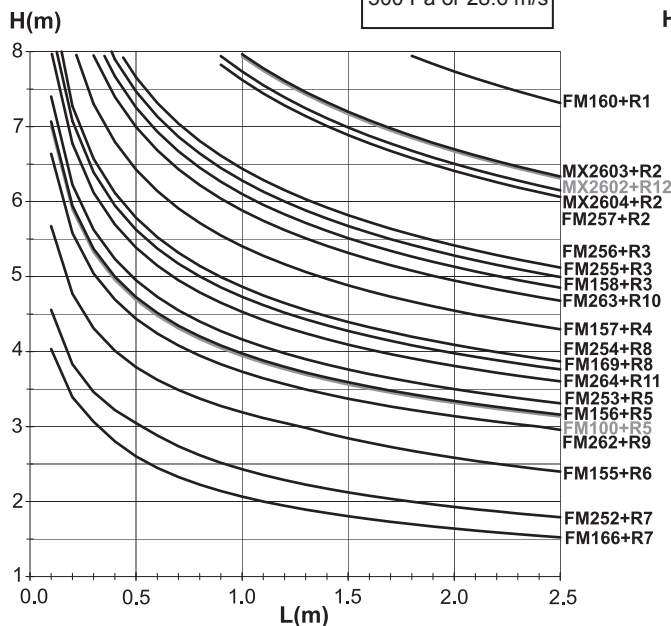
NOTE : These tables help you choose the mullions
but only full static calculation can justify the strength and stability

R1 = 140 x 40 x 4 + 70 x 40 x 4 R2 = R3 + R6 R3 = 120 x 40 x 4 R4 = 100 x 40 x 4
R5 = 60 x 40 x 4 R6 = 40 x 40 x 4 R7 = 40 x 20 x 2 R8 = 80 x 40 x 4
R9 = 60 x 14 R10 = 120 x 12 R11 = 80 x 14 R12 = 60 x 40 x 4 + 120 x 5



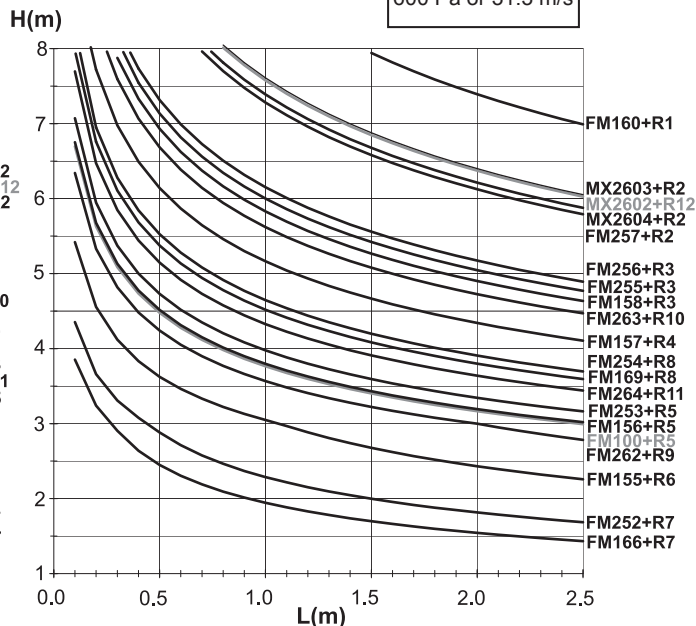
Curves F/H = 1/200 and 15 mm

500 Pa or 28.6 m/s



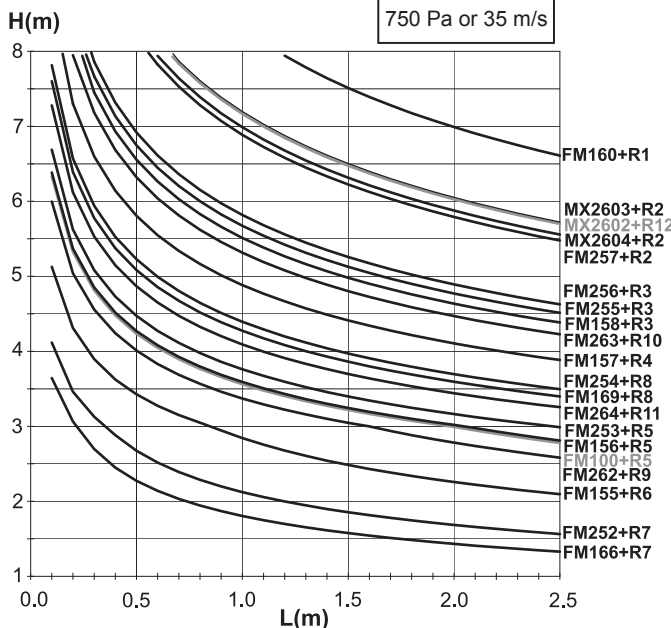
Curves F/H = 1/200 and 15 mm

600 Pa or 31.3 m/s



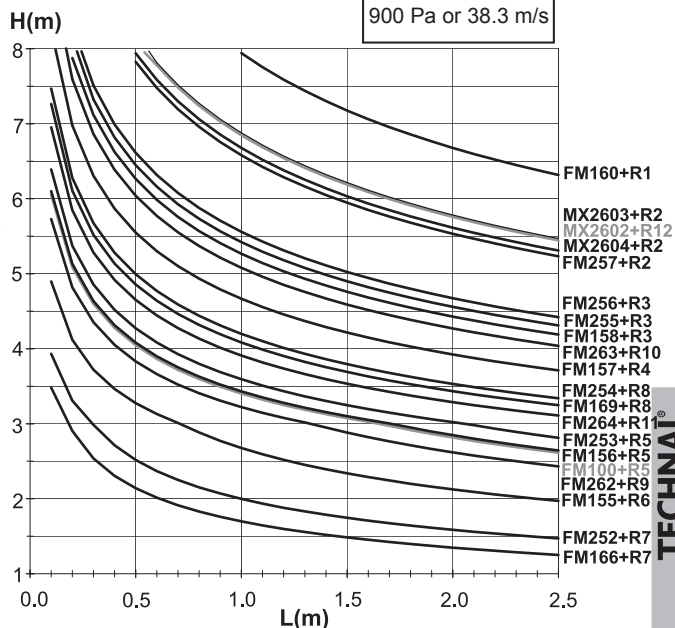
Curves F/H = 1/200 and 15 mm

750 Pa or 35 m/s



Curves F/H = 1/200 and 15 mm

900 Pa or 38.3 m/s



Permitted limit for this application 1/200 and deflection of 15 mm

Use tables

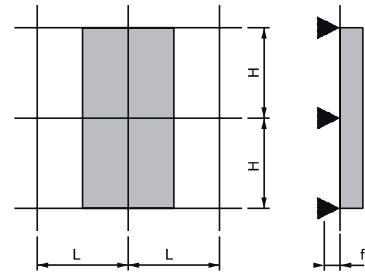
3 supports

TECHNAL®

Rectangular type load

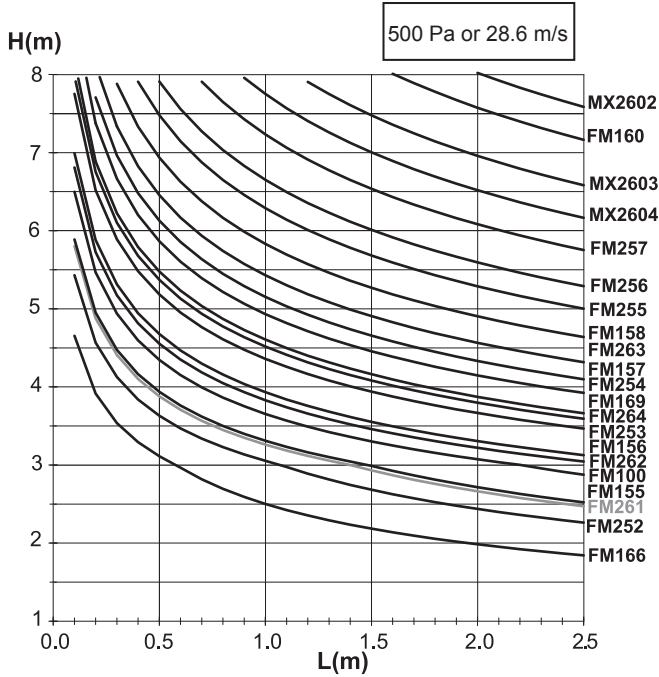
L(m) = Mullion distance

H(m) = Height between 2 supports

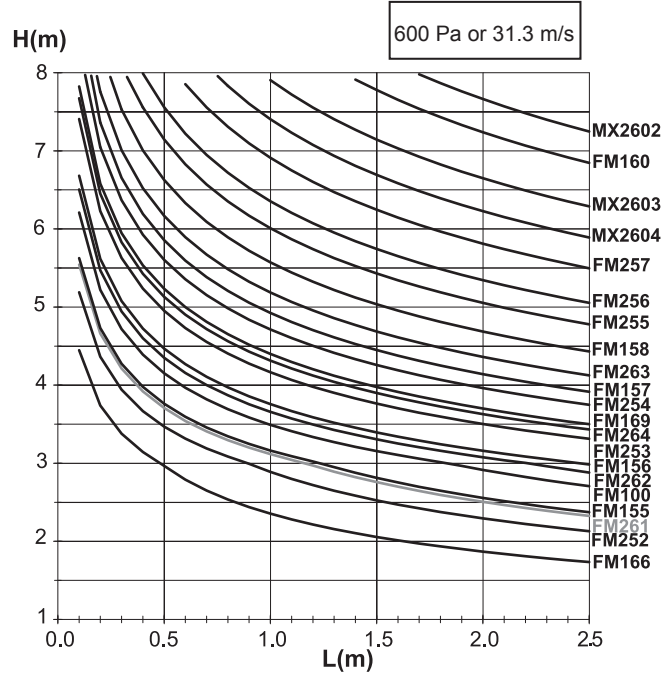


NOTE : These tables help you choose the mullions but only full static calculation can justify the strength and stability

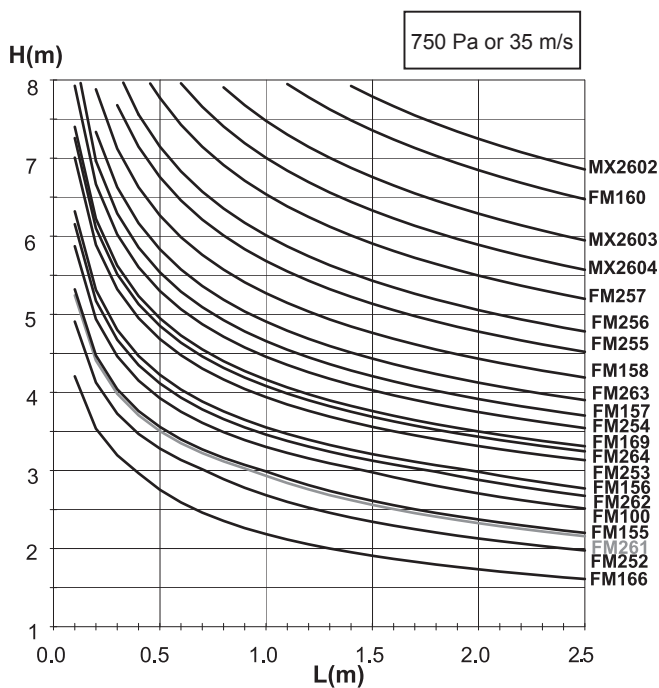
Curves F/H = 1/200 and 15 mm



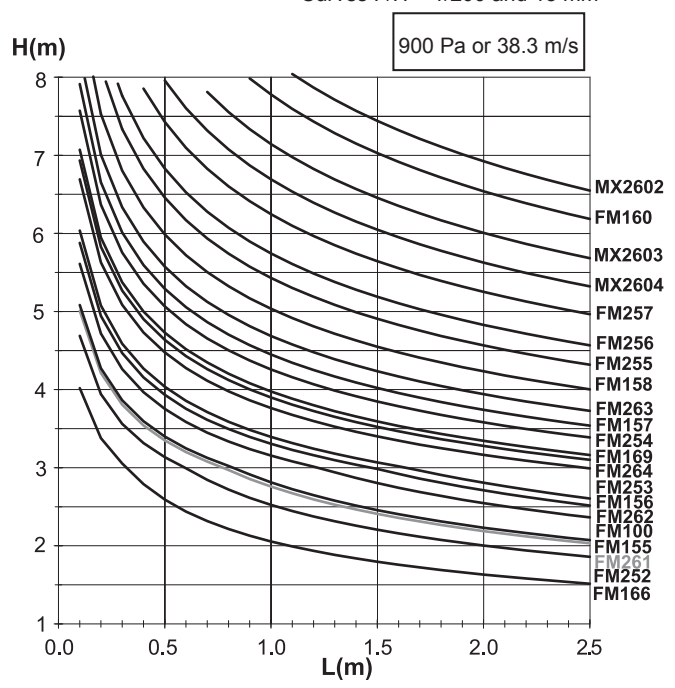
Curves F/H = 1/200 and 15 mm



Curves F/H = 1/200 and 15 mm



Curves F/H = 1/200 and 15 mm



Permitted limit for this application 1/200 and deflection of 15 mm

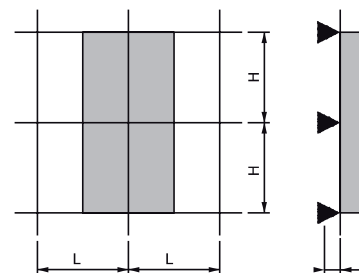
Use tables

3 supports with reinforcement

Rectangular type load

L(m) = Mullion distance

H(m) = Height between 2 supports



NOTE : These tables help you choose the mullions but only full static calculation can justify the strength and stability

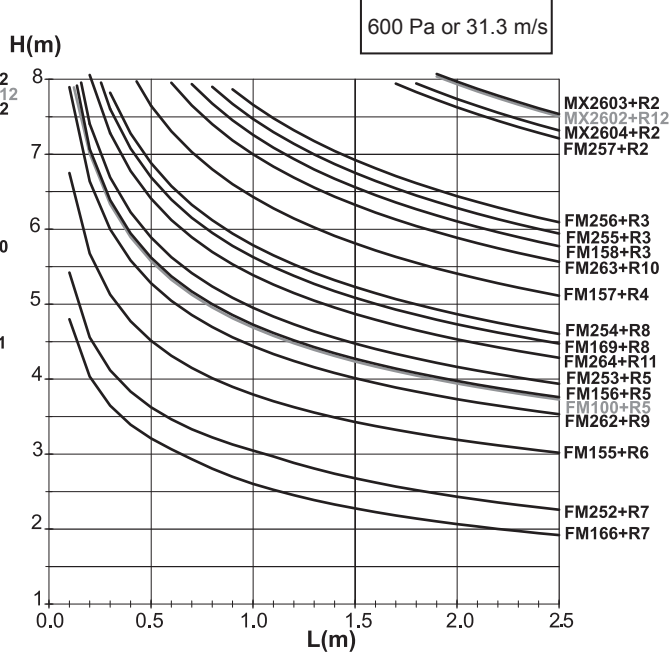
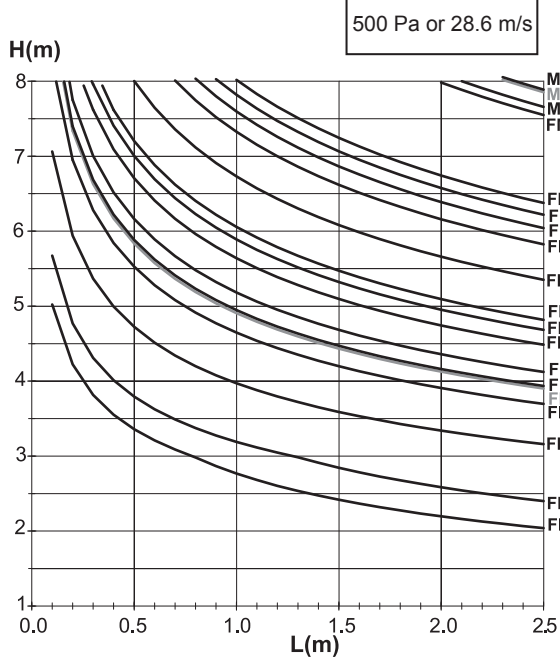
R1 = 140 x 40 x 4 + 70 x 40 x 4 R2 = R3 + R6 R3 = 120 x 40 x 4 R4 = 100 x 40 x 4

R5 = 60 x 40 x 4 R6 = 40 x 40 x 4 R7 = 40 x 20 x 2 R8 = 80 x 40 x 4

R9 = 60 x 14 R10 = 120 x 12 R11 = 80 x 14 R12 = 60 x 40 x 4 + 120 x 5

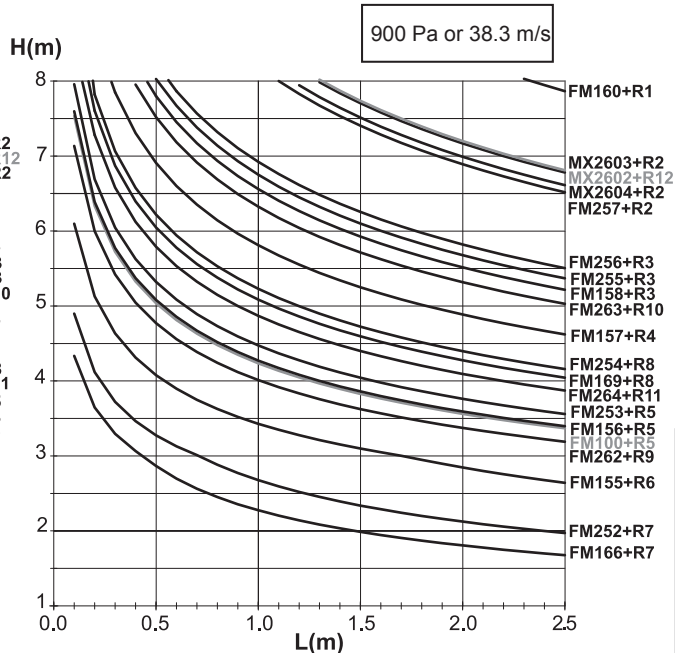
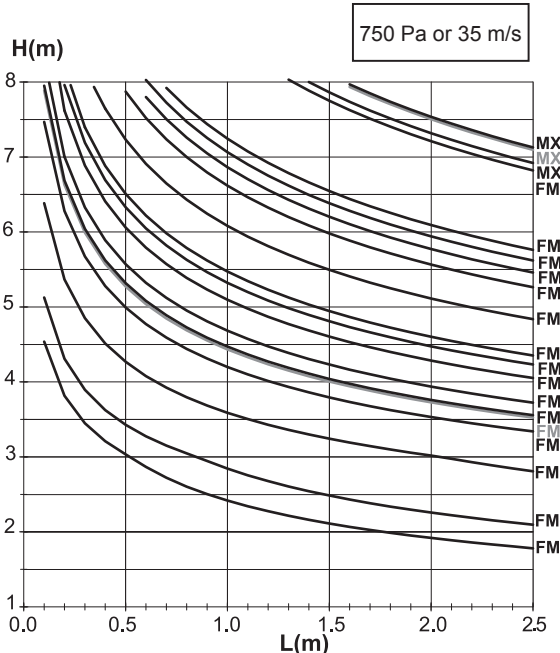
Curves F/H = 1/200 and 15 mm

Curves F/H = 1/200 and 15 mm



Curves F/H = 1/200 and 15 mm

Curves F/H = 1/200 and 15 mm



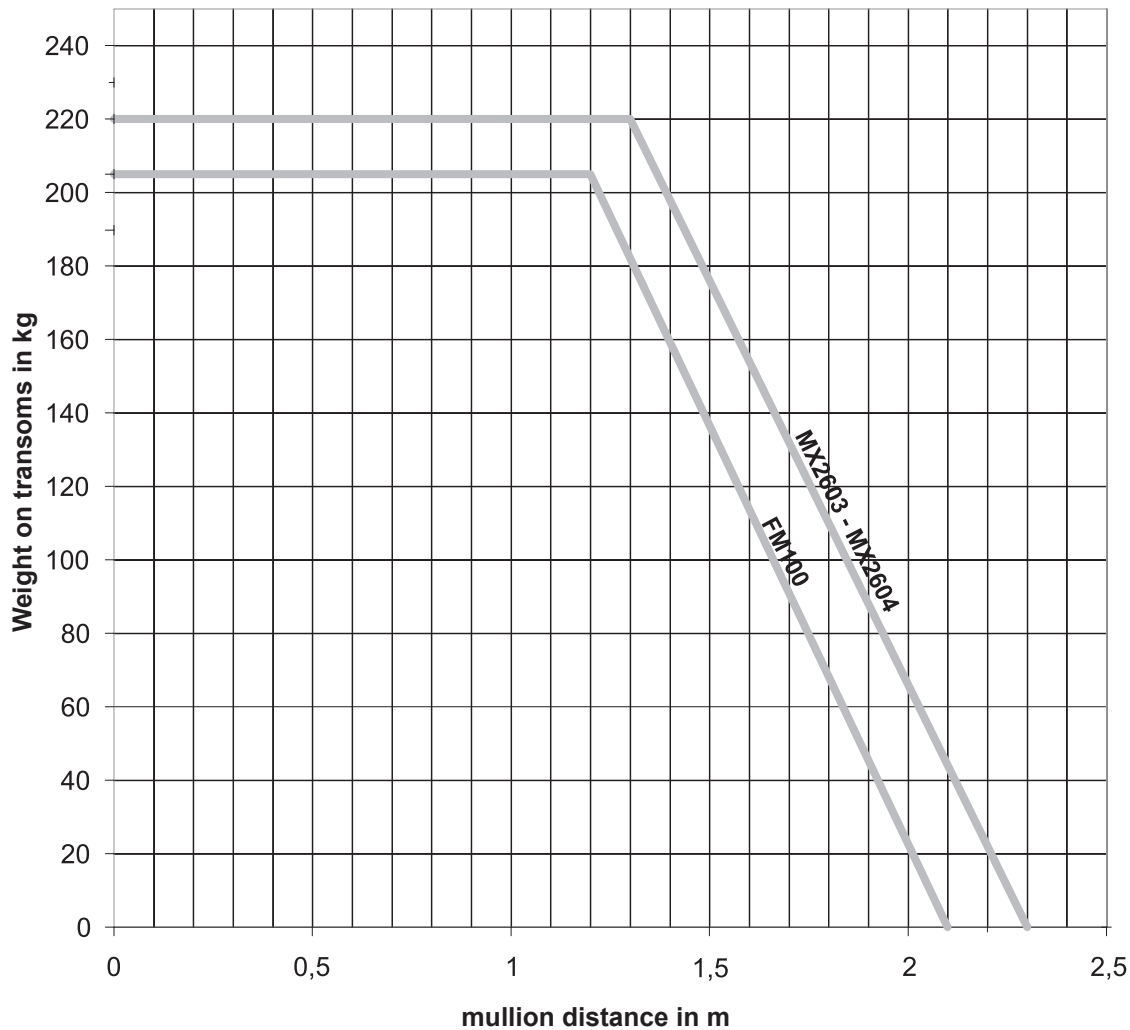
Permitted limit for this application 1/200 and deflection of 15 mm

Use tables

Transom connector EM070 with anti-rotation EM009

Use tables for transoms and shim supports

Transoms equipped with connector EM070 + anti-rotation EM009



Tables for shim supports CM190

Composition	Area weight (kg/m ²)	1 m ²	1,5 m ²	2 m ²	2,5 m ²	3 m ²	3,5 m ²	4 m ²	4,5 m ²	5 m ²	5,5 m ²	6 m ²	
		6	15	2 shim supports CM190						4 (2x2) shim supports CM190			
8	20	2 shim supports CM190						4 (2x2) shim supports CM190			6 (3x2) shim supports CM190		
10	25	2 shim supports CM190						4 (2x2) shim supports CM190			6 (3x2) shim supports CM190		
10 (6) 4	35	2 shim supports CM190						4 (2x2) shim supports CM190			6 (3x2) shim supports CM190		
44,2 (6) 8	41	2 shim supports CM190						4 (2x2) shim supports CM190			6 (3x2) shim supports CM190		
44,2 (12) 10	46	2 shim supports CM190						4 (2x2) shim supports CM190			6 (3x2) shim supports CM190		
64,2 (20) 44,2	47	2 shim supports CM190						4 (2x2) shim supports CM190			6 (3x2) shim supports CM190		

Tables for choice of transom with connector EM070
Glazing dimensions according to exposure as per DTU39

For determining transoms only the tables should be used

Use tables

Determination of free edge in horizontal frame with or without presser CM191 - CM196

EXAMPLE OF CALCULATION

Job in horizontal frame for entire façade, width of frame 1.50 m, height of frame 1.20 m in Marseille for building with height of 15 m.

Pressure used for the example = 1200 Pa

CHOICE IN TABLE FOR DOUBLE GLAZING: SEARCH FOR VALUE 1.2 (FREE EDGE)

Choice 1 with 2 pressers

1.09 < 1.20 > 1.40 — — — — — **2 pressers and double glazing 6 mm + 6 mm**

Choice 2 with 1 presser

0.99 < 1.20 > 1.27 — — — — — **1 presser and double glazing 8 mm + 6 mm**

Choice 3 without presser

1.28 max — — — — — **no presser and double glazing 10 mm + 10 mm**

TABLE READING

Good for glazing 6 + 6 under 1200 Pa with 2 pressers of 1.09 to 1.40

Good for glazing 8 + 6 under 1200 Pa with 1 presser of 0.99 to 1.27

Good for glazing 10 + 10 under 1200 Pa without presser max 1.28

Maximum value between base pressure and base depression of the site as per NV65

Double glazing annealed (Example)	500			800			1000			1200		
	without	1	2	without	1	2	without	1	2	without	1	2
glazing 4 + 4 mm	0.79 max	0.79 to 1.11	1.11 to 1.42	0.70 max	0.70 to 0.88	0.88 to 1.12	0.66 max	0.66 to 0.79	0.79 to 1.00	0.63 max	0.63 to 0.72	0.72 to 0.92
glazing 5 + 5 mm	0.94 max	0.94 to 1.40	1.40 to 1.80	0.84 max	0.84 to 1.11	1.11 to 1.42	0.79 max	0.79 to 0.99	0.99 to 1.27	0.76 max	0.76 to 0.91	0.91 to 1.16
glazing 6 + 4 mm	0.97 max	0.97 to 1.40	1.40 to 1.80	0.86 max	0.86 to 1.11	1.11 to 1.42	0.82 max	0.82 to 0.99	0.99 to 1.27	0.78 max	0.78 to 0.91	0.91 to 1.16
glazing 6 + 6 mm	1.09 max	1.09 to 1.69	1.69 to 2 max	0.96 max	0.96 to 1.34	1.34 to 1.71	0.91 max	0.91 to 1.20	1.20 to 1.53	0.87 max	0.87 to 1.09	1.09 to 1.40
glazing 8 + 6 mm	1.23 max	1.23 to 1.97	1.97 to 2 max	1.10 max	1.10 to 1.56	1.56 to 2 max	1.04 max	1.04 to 1.39	1.39 to 1.79	0.99 max	0.99 to 1.27	1.27 to 1.63
glazing 8 + 8 mm	1.34 max	1.34 to 2 max	2 max	1.19 max	1.19 to 1.78	1.78 to 2 max	1.13 max	1.13 to 1.59	1.59 to 2 max	1.08 max	1.08 to 1.45	1.45 to 1.86
glazing 10 + 8 mm	1.49 max	1.49 to 2 max	2 max	1.32 max	1.32 to 2 max	2 max	1.25 max	1.25 to 1.80	1.80 to 2 max	1.19 max	1.19 to 1.64	1.64 to 2 max
10 + 10 mm	1.60 max	1.60 to 2 max	2 max	1.42 max	1.42 to 2 max	2 max	1.34 max	1.34 to 2 max	2 max	1.28 max	1.28 to 1.83	1.83 to 2 max
10 + 12 mm	1.73 max	1.73 to 2 max	2 max	1.54 max	1.54 to 2 max	2 max	1.45 max	1.45 to 2 max	2 max	1.39 max	1.39 to 2 max	2 max
12 + 12 mm	1.84 max	1.84 to 2 max	2 max	1.63 max	1.63 to 2 max	2 max	1.54 max	1.54 to 2 max	2 max	1.48 max	1.48 to 2 max	2 max
SPS510 + 4 mm	0.87 max	0.87 to 1.41	1.41 to 1.80	0.78 max	0.78 to 1.11	1.11 to 1.43	0.74 max	0.74 to 1.00	1.00 to 1.28	0.70 max	0.70 to 0.91	0.91 to 1.16
SPS510 + 6 mm	1.02 max	1.02 to 1.70	1.70 to 2 max	0.91 max	0.91 to 1.35	1.35 to 1.72	0.86 max	0.86 to 1.20	1.20 to 1.54	0.82 max	0.82 to 1.10	1.10 to 1.41
SPS615 + 6 mm	1.06 max	1.06 to 1.89	1.89 to 2 max	0.95 max	0.95 to 1.49	1.49 to 1.91	0.89 max	0.89 to 1.34	1.34 to 1.71	0.85 max	0.85 to 1.22	1.22 to 1.56
SPS615 + 8 mm	1.22 max	1.22 to 2 max	2 max	1.08 max	1.08 to 1.71	1.71 to 2 max	1.03 max	1.03 to 1.53	1.53 to 1.96	0.98 max	0.98 to 1.40	1.40 to 1.79
area of frame max.	S max = 3.2 m ²			S max = 2.4 m ²			S max = 2 m ²			S max = 1.8 m ²		
	without	without presser		1	1 presser		2	2 pressers				

Note: Determine the site pressure by using all the coefficients (height effect, site effect, and at height in corners, etc.)

MAXIMUM GLAZING HEIGHT 2.00 M, FOR LARGER SIZES, CONSULT US

Use tables

Determination of free edge in horizontal frame with or without presser CM191 - CM196

Maximum value between base pressure and base depression of the site as per NV65

Glazing single annealed	500			800			1000			1200		
	No. of pressers	without	1	2	without	1	2	without	1	2	without	1
glazing 3 mm	0.53 max	0.53 to 0.61	0.61 to 0.79	0.49 max	0.49 max	0.49 to 0.62	0.43 max	0.43 max	0.49 to 0.62	0.40 max	0.40 max	0.40 to 0.51
glazing 4 mm	0.66 max	0.66 to 0.83	0.63 to 1.07	0.59 max	0.59 to 0.65	0.66 to 0.84	0.59 max	0.59 max	0.59 to 0.75	0.54 max	0.54 max	0.54 to 0.69
glazing 5 mm	0.79 max	0.79 to 1.05	1.05 to 1.35	0.70 max	0.70 to 0.83	0.83 to 1.06	0.67 max	0.67 to 0.74	0.74 to 0.95	0.68 max	0.68 max	0.68 to 0.87
glazing 6 mm	0.91 max	0.91 to 1.27	1.27 to 1.63	0.81 max	0.81 to 1.00	1.00 to 1.29	0.77 max	0.77 to 0.90	0.90 to 1.15	0.73 max	0.73 to 0.82	0.82 to 1.05
glazing 8 mm	1.13 max	1.13 to 1.69	1.69 to 2 max	1.00 max	1.00 to 1.33	1.33 to 1.71	0.95 max	0.95 to 1.19	1.19 to 1.53	0.91 max	0.91 to 1.09	1.09 to 1.39
glazing 10 mm	1.34 max	1.34 to 2 max	2 max	1.19 max	1.19 to 1.68	1.68 to 2 max	1.13 max	1.13 to 1.50	1.50 to 1.92	1.08 max	1.08 to 1.30	1.30 to 1.76
glazing 12 mm	1.54 max	1.54 to 2 max	2 max	1.37 max	1.37 to 2 max	2 max	1.30 max	1.30 to 1.81	1.81 to 2 max	1.24 max	1.24 to 1.65	1.65 to 2 max
glazing 15 mm	1.81 max	1.81 to 2 max	2 max	1.61 max	1.61 to 2 max	2 max	1.53 max	1.53 to 2 max	2 max	1.46 max	1.46 to 2 max	2 max
glazing 19 mm	2 max	2 max	2 max	1.90 max	1.90 to 2 max	2 max	1.79 max	1.90 to 2 max	2 max	1.71 max	1.71 to 2 max	2 max
area of frame max.	S max = 3.2 m²			S max = 2.4 m²			S max = 2 m²			S max = 1.8 m²		
	without	without presser		1	1 presser		2	2 pressers				

Maximum value between base pressure and base depression of the site as per NV65

Glazing single laminated	500			800			1000			1200		
	No. of pressers	without	1	2	without	1	2	without	1	2	without	1
glazing 33.2 mm	0.73 max	0.73 to 0.94	0.94 to 1.21	0.65 max	0.65 to 0.74	0.74 to 0.95	0.61 max	0.61 to 0.67	0.67 to 0.85	0.61 max	0.61 max	0.61 to 0.78
glazing 44.2 mm	0.66 max	0.66 to 0.83	0.63 to 1.07	0.59 max	0.59 to 0.65	0.66 to 0.84	0.59 max	0.59 max	0.59 to 0.75	0.54 max	0.54 max	0.90 to 1.16
glazing 55.2 mm	1.09 max	1.09 to 1.62	1.62 to 2 max	0.97 max	0.97 to 1.28	1.28 to 1.64	0.92 max	0.92 to 1.14	1.14 to 1.46	0.88 max	0.88 to 1.04	1.04 to 1.34
glazing 66.2 mm	1.26 max	1.26 to 1.95	1.95 to 2 max	1.12 max	1.12 to 1.55	1.55 to 1.98	1.06 max	1.06 to 1.38	1.38 to 1.77	1.01 max	1.01 to 1.26	1.26 to 1.62
glazing SP510	0.92 max	0.95 to 1.28	1.28 to 1.65	0.82 max	0.82 to 1.01	1.01 to 1.30	0.77 max	0.77 to 0.91	0.91 to 1.16	0.74 max	0.74 to 0.83	0.83 to 1.06
glazing SP615	1.07 max	1.07 to 1.56	1.56 to 2 max	0.95 max	0.95 to 1.24	1.24 to 1.58	0.90 max	0.90 to 1.11	1.11 to 1.41	0.86 max	0.86 to 1.01	1.01 to 1.29
area of frame max.	S max = 3.2 m²			S max = 2.4 m²			S max = 2 m²			S max = 1.8 m²		
	without	without presser		1	1 presser		2	2 pressers				

Use tables

Determination of free edge in horizontal frame with or without presser CM191 - CM196

Maximum value between base pressure and base depression of the site as per NV65

Glazing single hardened	500			800			1000			1200		
	No. of pressers	without	1	2	without	1	2	without	1	2	without	1
glazing 4 mm	0.79 max	0.79 to 1.04	1.04 to 1.33	0.70 max	0.70 to 0.82	0.82 to 1.05	0.69 max	0.69 to 0.79	0.79 to 1.00	0.66 max	0.66 to 0.72	0.72 to 0.92
glazing 5 mm	0.94 max	0.94 to 1.31	1.31 to 1.68	0.83 max	0.83 to 1.04	1.04 to 1.33	0.83 max	0.83 to 0.99	0.99 to 1.27	0.79 max	0.79 to 0.91	0.91 to 1.16
glazing 6 mm	1.08 max	1.08 to 1.59	1.59 to 2 max	0.96 max	0.96 to 1.26	1.26 to 1.61	0.95 max	0.95 to 1.20	1.20 to 1.53	0.91 max	0.91 to 1.09	1.09 to 1.40
glazing 8 mm	1.33 max	1.33 to 2 max	2 max	1.19 max	1.19 to 1.67	1.67 to 2 max	1.18 max	1.18 to 1.59	1.59 to 2 max	1.13 max	1.13 to 1.45	1.45 to 1.86
glazing 10 mm	1.59 max	1.59 to 2 max	2 max	1.41 max	1.41 to 2 max	2 max	1.40 max	1.40 to 2 max	2 max	1.34 max	1.45 to 1.83	1.83 to 2 max
glazing 12 mm	1.83 max	1.83 to 2 max	2 max	1.62 max	1.62 to 2 max	2 max	1.61 max	1.61 to 2 max	2 max	1.54 max	1.54 to 2 max	2 max
area of frame max.	S max = 3.2 m ²			S max = 2.4 m ²			S max = 2 m ²			S max = 1.8 m ²		
	without	without presser		1	1 presser		2	2 pressers				

Maximum value between base pressure and base depression of the site as per NV65

Double glazing annealed	500			800			1000			1200		
	No. of pressers	without	1	2	without	1	2	without	1	2	without	1
glazing 4 + 4 mm	0.79 max	0.79 to 1.11	1.11 to 1.42	0.70 max	0.70 to 0.88	0.88 to 1.12	0.66 max	0.66 to 0.79	0.79 to 1.00	0.63 max	0.63 to 0.72	0.72 to 0.92
glazing 5 + 5 mm	0.94 max	0.94 to 1.40	1.40 to 1.80	0.84 max	0.84 to 1.11	1.11 to 1.42	0.79 max	0.79 to 0.99	0.99 to 1.27	0.76 max	0.76 to 0.91	0.91 to 1.16
glazing 6 + 4 mm	0.97 max	0.97 to 1.40	1.40 to 1.80	0.86 max	0.86 to 1.11	1.11 to 1.42	0.82 max	0.82 to 0.99	0.99 to 1.27	0.78 max	0.78 to 0.91	0.91 to 1.16
glazing 6 + 6 mm	1.09 max	1.09 to 1.69	1.69 to 2 max	0.96 max	0.96 to 1.34	1.34 to 1.71	0.91 max	0.91 to 1.20	1.20 to 1.53	0.87 max	0.87 to 1.09	1.09 to 1.40
glazing 8 + 6 mm	1.23 max	1.23 to 1.97	1.97 to 2 max	1.10 max	1.10 to 1.56	1.56 to 2 max	1.04 max	1.04 to 1.39	1.39 to 1.79	0.99 max	0.99 to 1.27	1.27 to 1.63
glazing 8 + 8 mm	1.34 max	1.34 to 2 max	2 max	1.19 max	1.19 to 1.78	1.78 to 2 max	1.13 max	1.13 to 1.59	1.59 to 2 max	1.08 max	1.08 to 1.45	1.45 to 1.86
glazing 10 + 8 mm	1.49 max	1.49 to 2 max	2 max	1.32 max	1.32 to 2 max	2 max	1.25 max	1.25 to 1.80	1.80 to 2 max	1.19 max	1.19 to 1.64	1.64 to 2 max
10 + 10 mm	1.60 max	1.60 to 2 max	2 max	1.42 max	1.42 to 2 max	2 max	1.34 max	1.34 to 2 max	2 max	1.28 max	1.28 to 1.83	1.83 to 2 max
10 + 12 mm	1.73 max	1.73 to 2 max	2 max	1.54 max	1.54 to 2 max	2 max	1.45 max	1.45 to 2 max	2 max	1.39 max	1.39 to 2 max	2 max
12 + 12 mm	1.84 max	1.84 to 2 max	2 max	1.63 max	1.63 to 2 max	2 max	1.54 max	1.54 to 2 max	2 max	1.48 max	1.48 to 2 max	2 max
SP510 + 4 mm	0.87 max	0.87 to 1.41	1.41 to 1.80	0.78 max	0.78 to 1.11	1.11 to 1.43	0.74 max	0.74 to 1.00	1.00 to 1.28	0.70 max	0.70 to 0.91	0.91 to 1.16
SP510 + 6 mm	1.02 max	1.02 to 1.70	1.70 to 2 max	0.91 max	0.91 to 1.35	1.35 to 1.72	0.86 max	0.86 to 1.20	1.20 to 1.54	0.82 max	0.82 to 1.10	1.10 to 1.41
SP615 + 6 mm	1.06 max	1.06 to 1.89	1.89 to 2 max	0.95 max	0.95 to 1.49	1.49 to 1.91	0.89 max	0.89 to 1.34	1.34 to 1.71	0.85 max	0.85 to 1.22	1.22 to 1.56
SP615 + 8 mm	1.22 max	1.22 to 2 max	2 max	1.08 max	1.08 to 1.71	1.71 to 2 max	1.03 max	1.03 to 1.53	1.53 to 1.96	0.98 max	0.98 to 1.40	1.40 to 1.79
area of frame max.	S max = 3.2 m ²			S max = 2.4 m ²			S max = 2 m ²			S max = 1.8 m ²		
	without	without presser		1	1 presser		2	2 pressers				

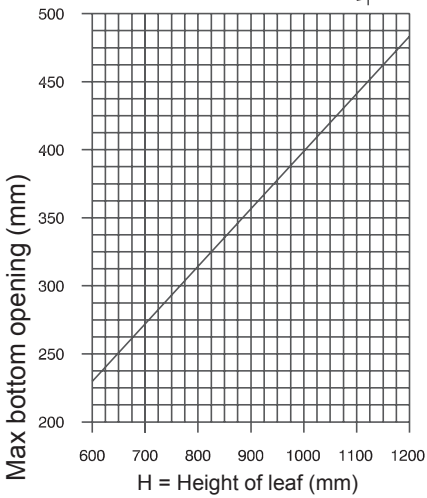
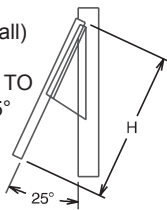
Use tables

Sashes

TOP-HUNG

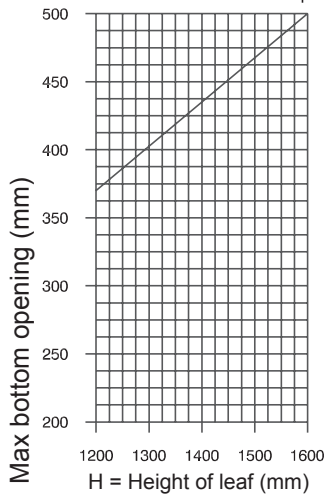
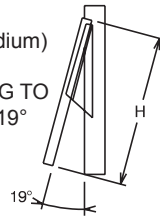
Ref. **KM097**
Stainless steel limiter (small)

MAX BOTTOM OPENING TO SECURITY STOP AT 25°



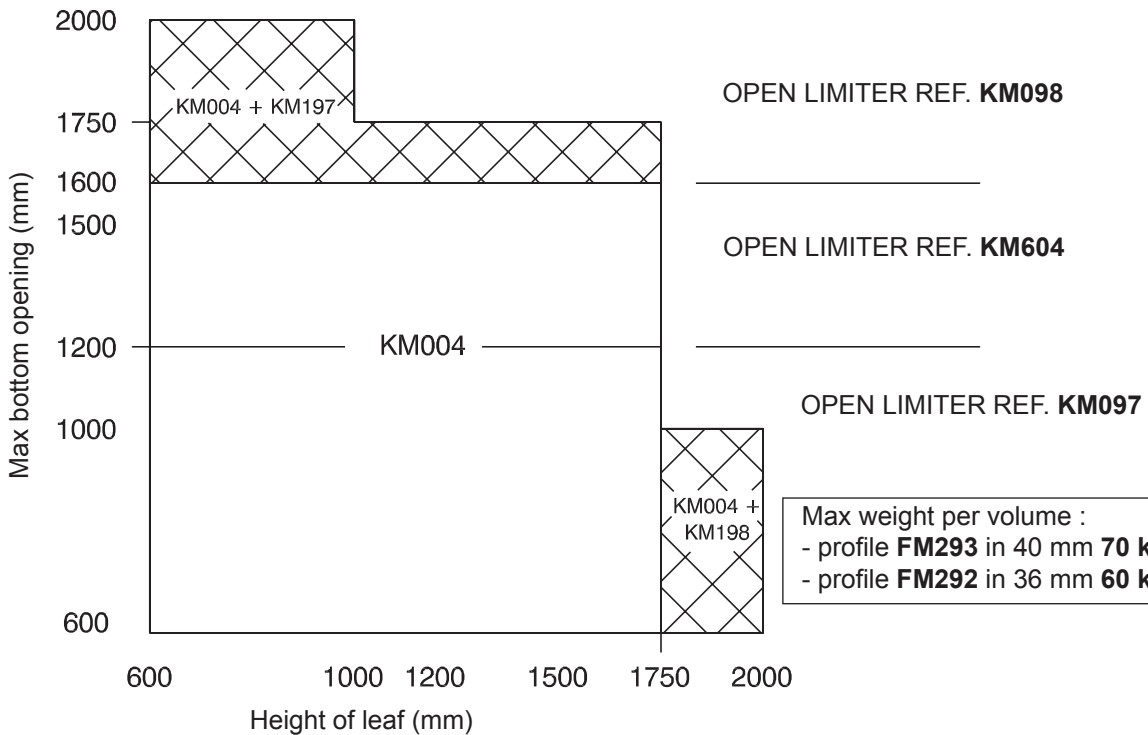
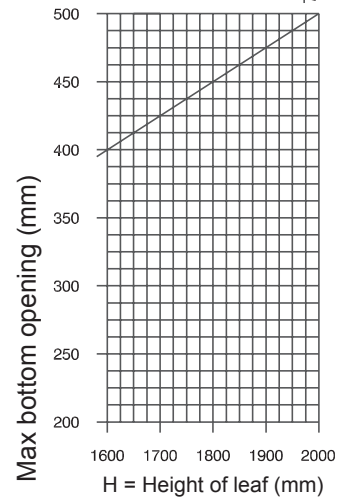
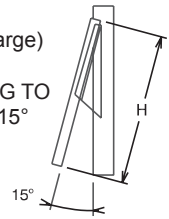
Ref. **KM604**
Stainless steel stay (medium)

MAX BOTTOM OPENING TO SECURITY STOP AT 19°



Ref. **KM098**
Stainless steel limiter (large)

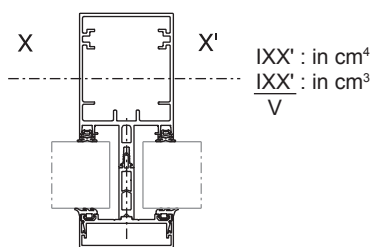
MAX BOTTOM OPENING TO SECURITY STOP AT 15°



Inertia values

Framework mullion and transom profiles

For force perpendicular to the façade with wind pressure and depression. Inertia according to axis XX'



Ref.	Perimeter of painting	Inertia without reinforcement	Inertia with reinforcement	
FM254	0.430 ml	152.65 cm ⁴ 24.69 cm ³	Steel tube 80x40x4	347.02 cm ⁴ 56.98 cm ³



Ref.	Perimeter of painting	Inertia without reinforcement	Inertia with reinforcement	
FM169	0.410 ml	116.05 cm ⁴ 20.95 cm ³	Steel tube 80x40x4	310.42 cm ⁴ 53.70 cm ³



Ref.	Perimeter of painting	Inertia without reinforcement	Inertia with reinforcement	
FM253	0.390 ml	93.13 cm ⁴ 17.80 cm ³	Steel tube 60x40x4	186.07 cm ⁴ 36.37 cm ³



Ref.	Perimeter of painting	Inertia without reinforcement	Inertia with reinforcement	
FM156	0.370 ml	61.65 cm ⁴ 13.41 cm ³	Steel tube 60x40x4	154.59 cm ⁴ 32.13 cm ³



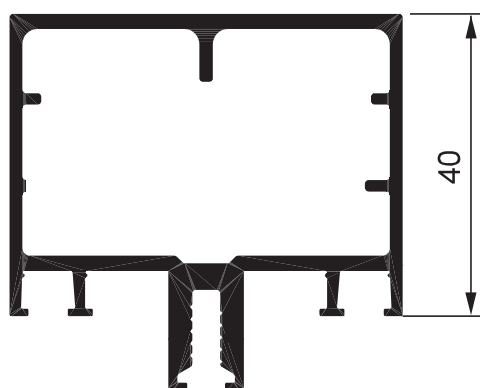
Ref.	Perimeter of painting	Inertia without reinforcement	Inertia with reinforcement	
FM100	0.358 ml	46.0 cm ⁴ 11.03 cm ³	Steel tube 60x40x4	149,5 cm ⁴



Ref.	Perimeter of painting	Inertia without reinforcement	Inertia with reinforcement	
FM155	0.330 ml	30.99 cm ⁴ 8.84 cm ³	Steel tube 40x40x4	64.20 cm ⁴ 17.12 cm ³



Ref.	Perimeter of painting	Inertia without reinforcement	Inertia with reinforcement	
FM252	0.310 ml	22.42 cm ⁴ 6.83 cm ³	Steel tube 20x40x2	26.71 cm ⁴ 8.34 cm ³

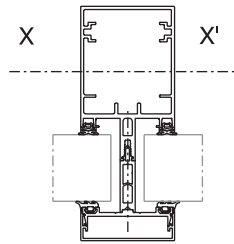


Ref.	Perimeter of painting	Inertia without reinforcement	Inertia with reinforcement	
FM166	0.290 ml	12.11 cm ⁴ 4.53 cm ³	Steel tube 20x40x2	16.40 cm ⁴ 5.85 cm ³

Inertia values

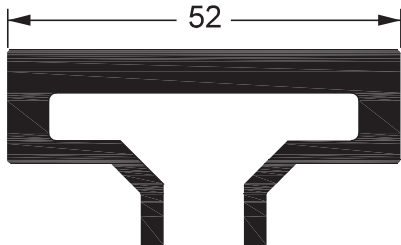
Framework mullion and transom profiles

For force perpendicular to the façade with wind pressure and depression. Inertia according to axis XX'



IXX' : in cm⁴
 IXX' : in cm³
 V

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Ref.	Perimeter of painting	Inertia without reinforcement	Inertia with reinforcement
MX2602	0.793 ml	2133 cm ⁴ 153 cm ³	Steel tube and flat 60x40x4 and 120x5 2452.5 cm ⁴



Ref.	Perimeter of painting	Inertia without reinforcement	Inertia with reinforcement
FM160	0.690 ml	1698 cm ⁴ 114.7 cm ³	Welded steel tube 140x40x4 and 70x40x4 4439.99 cm ⁴ 336.45 cm ³



Ref.	Perimeter of painting	Inertia without reinforcement	Inertia with reinforcement
MX2603	0.630 ml	1209 cm ⁴ 87 cm ³	Welded steel tubes 120x40x4 and 40x40x4 2495.7 cm ⁴



Ref.	Perimeter of painting	Inertia without reinforcement	Inertia with reinforcement
MX2604	0.610 ml	931 cm ⁴ 76.6 cm ³	Welded steel tubes 120x40x4 and 40x40x4 2217.7 cm ⁴



Ref.	Perimeter of painting	Inertia without reinforcement	Inertia with reinforcement
FM257	0.590 ml	706.12 cm ⁴ 65.58 cm ³	Welded steel tube 120x40x4 and 40x40x4 2092.57 cm ⁴ 202.19 cm ³



Ref.	Perimeter of painting	Inertia without reinforcement	Inertia with reinforcement
FM256	0.530 ml	504.95 cm ⁴ 50.64 cm ³	Steel tube 120x40x4 1065.62 cm ⁴ 117.69 cm ³



Ref.	Perimeter of painting	Inertia without reinforcement	Inertia with reinforcement
FM255	0.510 ml	403.44 cm ⁴ 44.64 cm ³	Steel tube 120x40x4 964.11 cm ⁴ 113.04 cm ³



Ref.	Perimeter of painting	Inertia without reinforcement	Inertia with reinforcement
FM158	0.490 ml	298.30 cm ⁴ 37.56 cm ³	Steel tube 120x40x4 858.97 cm ⁴ 107.75 cm ³



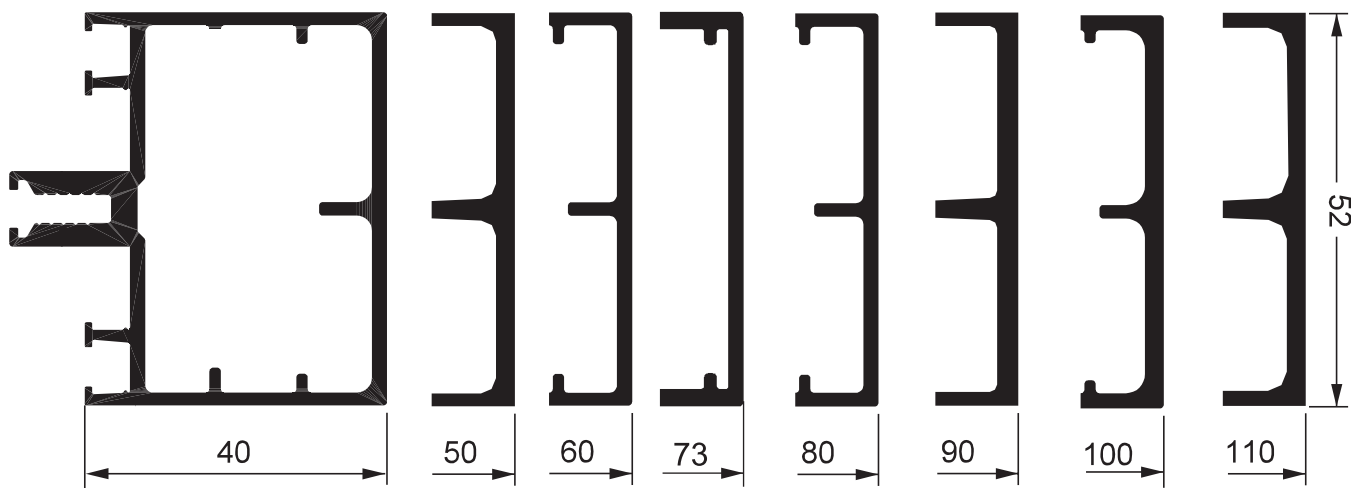
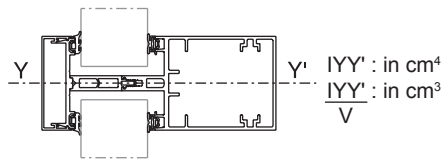
Ref.	Perimeter of painting	Inertia without reinforcement	Inertia with reinforcement
FM157	0.450 ml	181.89 cm ⁴ 27.87 cm ³	Steel tube 100x40x4 528.96 cm ⁴ 77.98 cm ³

Inertia values

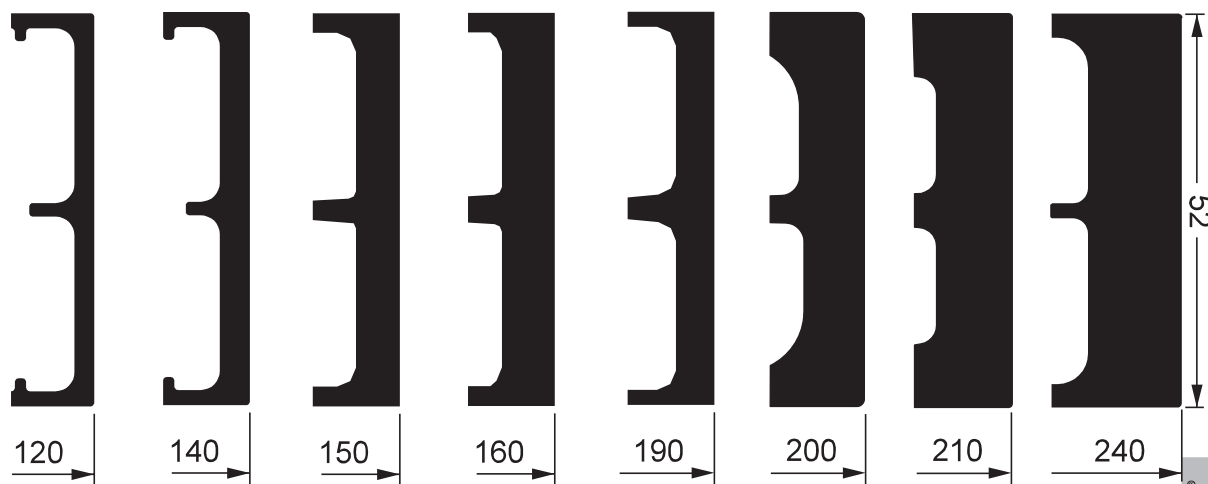
Framework transom profiles

For force in plane of the façade with infill weight Inertia according to axis YY'

Only the tables are used to dimension glazing frames and weight take up



Ref.	FM166	FM252	FM155	FM100	FM156	FM253	FM169	FM254
Inertia without reinforcement	14.24 cm ⁴ 5.48 cm ³	16.87 cm ⁴ 6.49 cm ³	19.09 cm ⁴ 7.34 cm ³	22.2 cm ⁴ 8.53 cm ³	24.17 cm ⁴ 9.29 cm ³	27.20 cm ⁴ 10.46 cm ³	32.82 cm ⁴ 12.62 cm ³	35.73 cm ⁴ 13.74 cm ³
Inertia with reinforcement	Steel tube 20x40x2 27.5 cm ⁴ 10.6 cm ³	Steel tube 20x40x2 30.1 cm ⁴ 11.6 cm ³	Steel tube 40x40x4 52.3 cm ⁴ 20.1 cm ³	Steel tube 60x40x4 75.6 cm ⁴ 35.2 cm ³	Steel tube 60x40x4 73 cm ⁴ 28.1 cm ³	Steel tube 60x40x4 76 cm ⁴ 29.2 cm ³	Steel tube 80x40x4 96.3 cm ⁴ 37.5 cm ³	Steel tube 80x40x4 100.2 cm ⁴ 38.5 cm ³



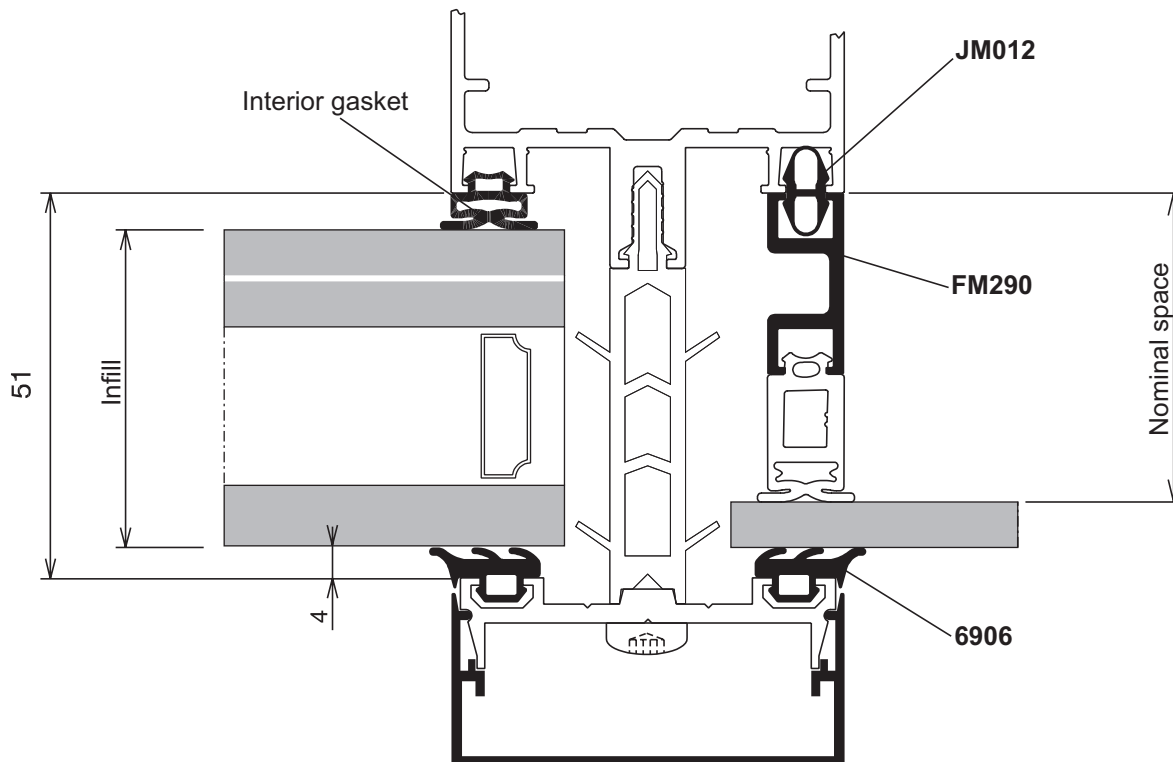
Ref.	FM157	FM158	FM255	FM256	FM257	MX2604	MX2603	FM160*
Inertia without reinforcement	38.37 cm ⁴ 14.76 cm ³	46.80 cm ⁴ 18 cm ³	52.98 cm ⁴ 19.99 cm ³	56.18 cm ⁴ 21.61 cm ³	66.80 cm ⁴ 25.69 cm ³	73.50 cm ⁴ 28.30 cm ³	89 cm ⁴ 34.30 cm ³	102.1 cm ⁴ 39.30 cm ³
Inertia with reinforcement	Steel tube 100x40x4 118.4 cm ⁴ 45.6 cm ³	Steel tube 120x40x4 142.5 cm ⁴ 54.8 cm ³	Steel tube 120x40x4 147.7 cm ⁴ 56.8 cm ³	Steel tube 120x40x4 151.9 cm ⁴ 58.4 cm ³	Steel tubes 120x40x4 and 40x40x4 204.2 cm ⁴ 78.5 cm ³	Steel tubes 120x40x4 and 40x40x4 209.4 cm ⁴ 80.5 cm ³	Steel tubes 120x40x4 and 40x40x4 225.8 cm ⁴ 86.8 cm ³	Steel tubes 140x40x4 and 70x40x4 240.1 cm ⁴ 108.3 cm ³

* advance installation only

TECHNICAL

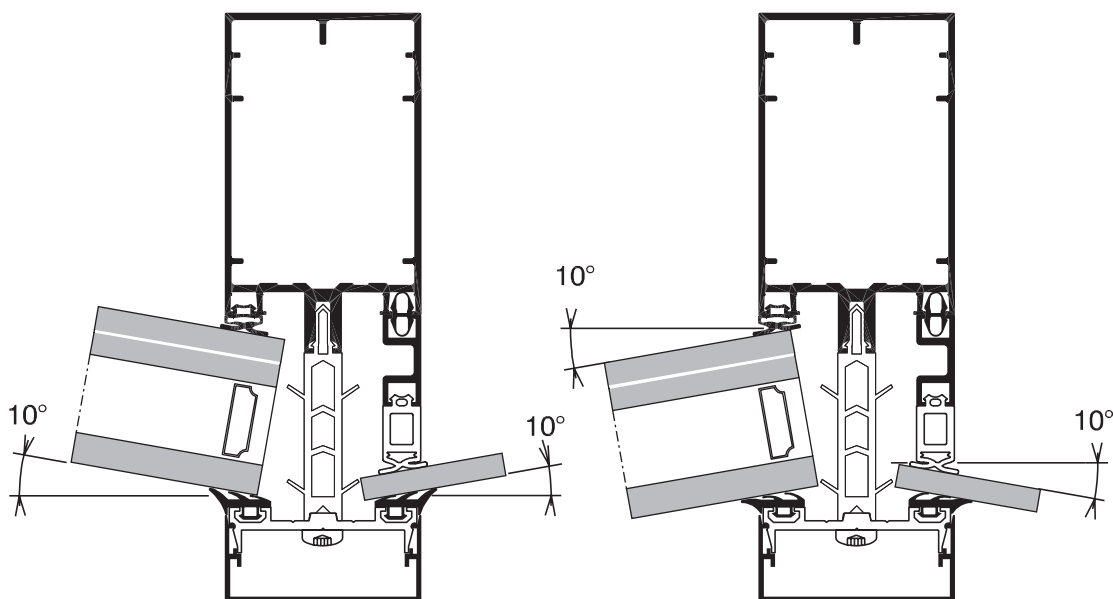
Glazing option

Grid aspect from 0 to ± 10° max












OUTWARD CORNER
from 0° min to 10° max

INWARD CORNER
from 0° min to 10° max

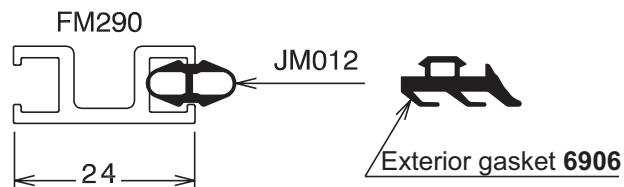
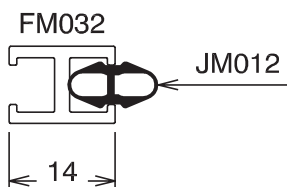


Glazing option

Grid aspect from 0 to ± 10° max

Infill in mm	Nominal space in mm	Glazing bead ref	Interior gasket ref	Exterior gasket ref	
					JM132 5 mm 
6	24 + 17	FM290	JM008	6906	
8	24 + 15	FM290	JM006	6906	JM010 6 mm 
9 (44.2)	24 + 14	FM290	JM009	6906	
10	24 + 13	FM290	JM007	6906	
11 (55.2)	24 + 12	FM290	JM081	6906	JM001 9 mm 
12	24 + 11	FM290	JM004	6906	
14	24 + 9	FM290	JM001	6906	JM004 11 mm 
16	24 + 6	FM290	JM010	6906	
18	24 + 5	FM290	JM132	6906	
20	14 + 13	FM032	JM007	6906	JM081 12 mm 
21	14 + 12	FM032	JM081	6906	
22	14 + 11	FM032	JM004	6906	
24	14 + 9	FM032	JM001	6906	JM007 13 mm 
26	14 + 6	FM032	JM010	6906	
28	14 + 5	FM032	JM132	6906	
30	17	WITHOUT	JM008	6906	JM009 14 mm 
32	15	WITHOUT	JM006	6906	
33	14	WITHOUT	JM009	6906	JM006 15 mm 
34	13	WITHOUT	JM007	6906	
35	12	WITHOUT	JM081	6906	
36	11	WITHOUT	JM004	6906	JM008 17 mm 
38	9	WITHOUT	JM001	6906	
40	6	WITHOUT	JM010	6906	
42	5	WITHOUT	JM132	6906	

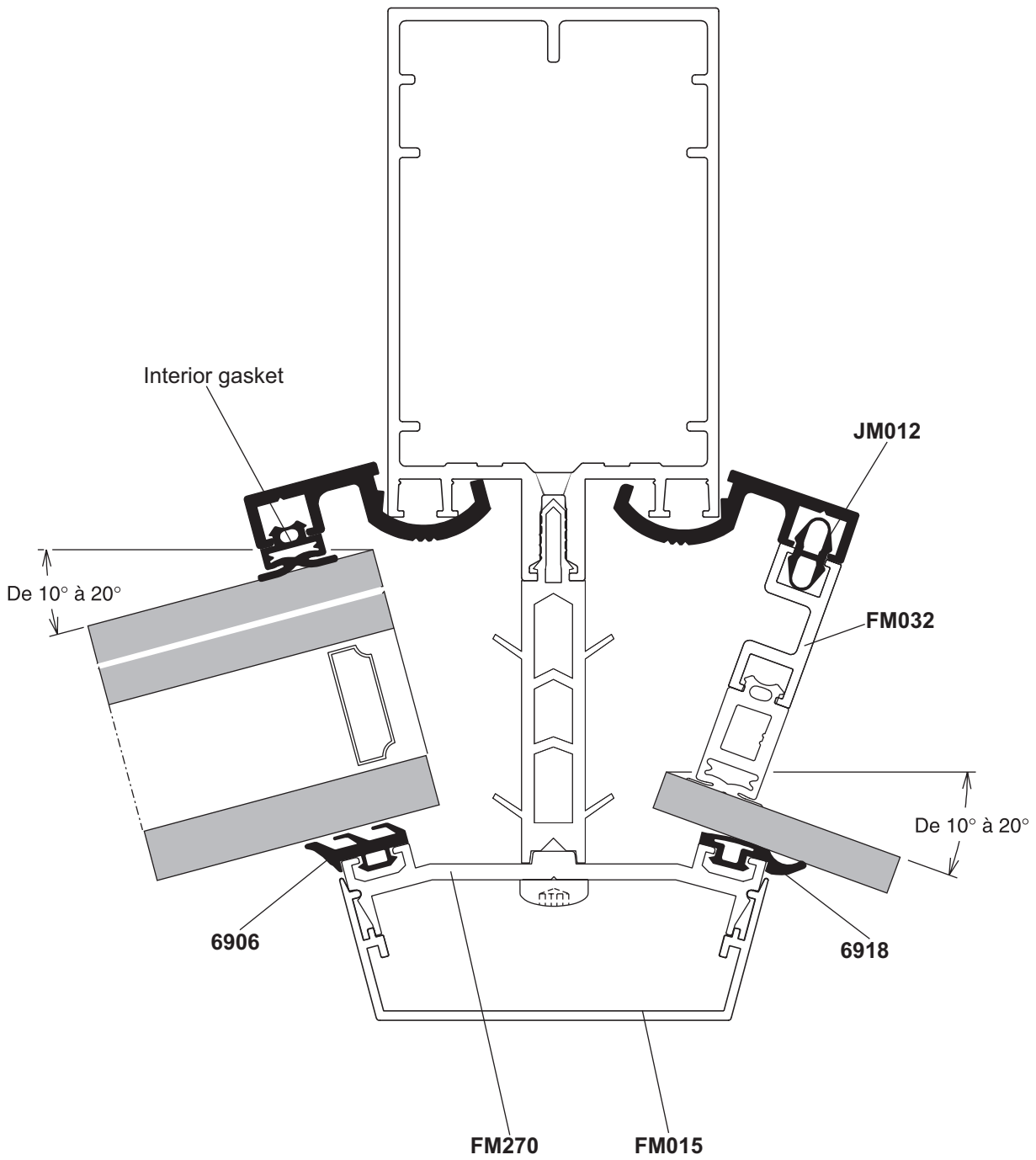
Possibility of installing with roller ref. **OM042**



geffc198

Glazing option










Grid aspect inward corner
from 10° min to 20° max



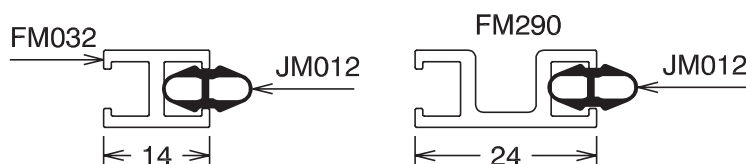
geffc199

Glazing option

Grid aspect inward corner from 10° min to 20° max

Infill in mm	Nominal space in mm	Glazing bead ref	Interior gasket ref	Exterior gasket ref		
				Angle from 16° to 20°	Angle from 10° to 15°	
6	24 + 17	FM290	JM008	6906	6918	JM132 5 mm 
8	24 + 15	FM290	JM006	6906	6918	JM010 6 mm 
9 (44.2)	24 + 14	FM290	JM009	6906	6918	
10	24 + 13	FM290	JM007	6906	6918	JM001 9 mm 
11 (55.2)	24 + 12	FM290	JM081	6906	6918	
12	24 + 11	FM290	JM004	6906	6918	
14	24 + 9	FM290	JM001	6906	6918	JM004 11 mm 
16	24 + 6	FM290	JM010	6906	6918	
18	24 + 5	FM290	JM132	6906	6918	
20	14 + 13	FM032	JM007	6906	6918	JM081 12 mm 
21	14 + 12	FM032	JM081	6906	6918	
22	14 + 11	FM032	JM004	6906	6918	
24	14 + 9	FM032	JM001	6906	6918	JM007 13 mm 
26	14 + 6	FM032	JM010	6906	6918	
28	14 + 5	FM032	JM132	6906	6918	JM009 14 mm 
30	17	SANS	JM008	6906	6918	
32	15	WITHOUT	JM006	6906	6918	
33	14	WITHOUT	JM009	6906	6918	JM006 15 mm 
34	13	WITHOUT	JM007	6906	6918	
35	12	WITHOUT	JM081	6906	6918	
36	11	WITHOUT	JM004	6906	6918	JM008 17 mm 
38	9	WITHOUT	JM001	6906	6918	
40	6	WITHOUT	JM010	6906	6918	
42	5	WITHOUT	JM132	6906	6918	

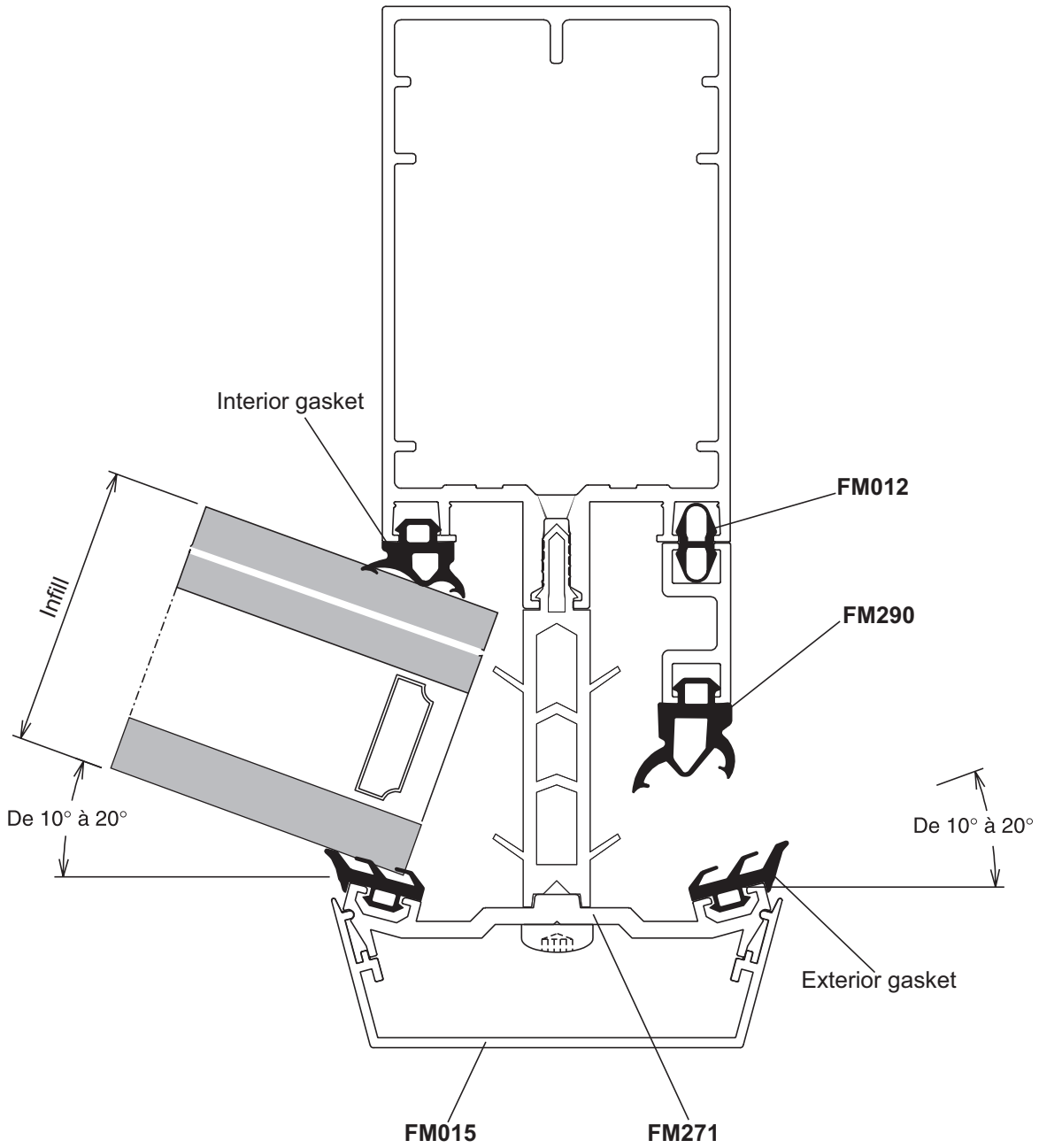
Possibility of installing with roller ref. **OM042**



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Glazing option

Grid aspect outward corner
from 10° min to 20° max



geffc201

Glazing option

Grid aspect outward corner
from 10° min to 20° max

Infill in mm	Glazing bead ref	Interior gasket ref	Exterior gasket ref	Glazing bead ref	Interior gasket ref	Exterior gasket ref
	In transom			In mullion		
14	FM290	JM001	6906	FM290	JM135	6906
16	FM290	JM010	6906	FM290	JM135	6906
18	FM290	JM132	6906	FM290	JM134	6906
20	FM032	JM007	6906	FM290	JM133	6906
21	FM032	JM081	6906	FM243	JM134	6906
22	FM032	JM004	6906	FM243	JM133	6906
24	FM032	JM001	6906	FM032	JM135	6906
26	FM032	JM010	6906	FM032	JM135	6906
28	FM032	JM132	6906	FM032	JM134	6906
30	WITHOUT	JM008	6906	FM032	JM133	6906
38	WITHOUT	JM001	6906	WITHOUT	JM135	6906
40	WITHOUT	JM010	6906	WITHOUT	JM135	6906
42	WITHOUT	JM132	6906	WITHOUT	JM134	6906

JM132
5 mm



JM010
6 mm



JM001
9 mm



JM004
11 mm



JM081
12 mm



JM007
13 mm



JM009
14 mm



JM006
15 mm



JM008
17 mm



JM133
3 mm



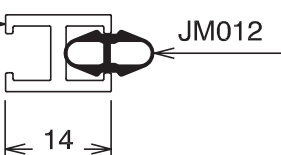
JM134
7 mm



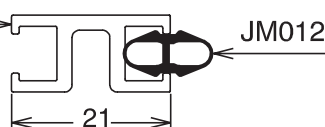
JM135
11 mm



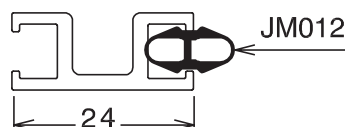
FM032



FM243



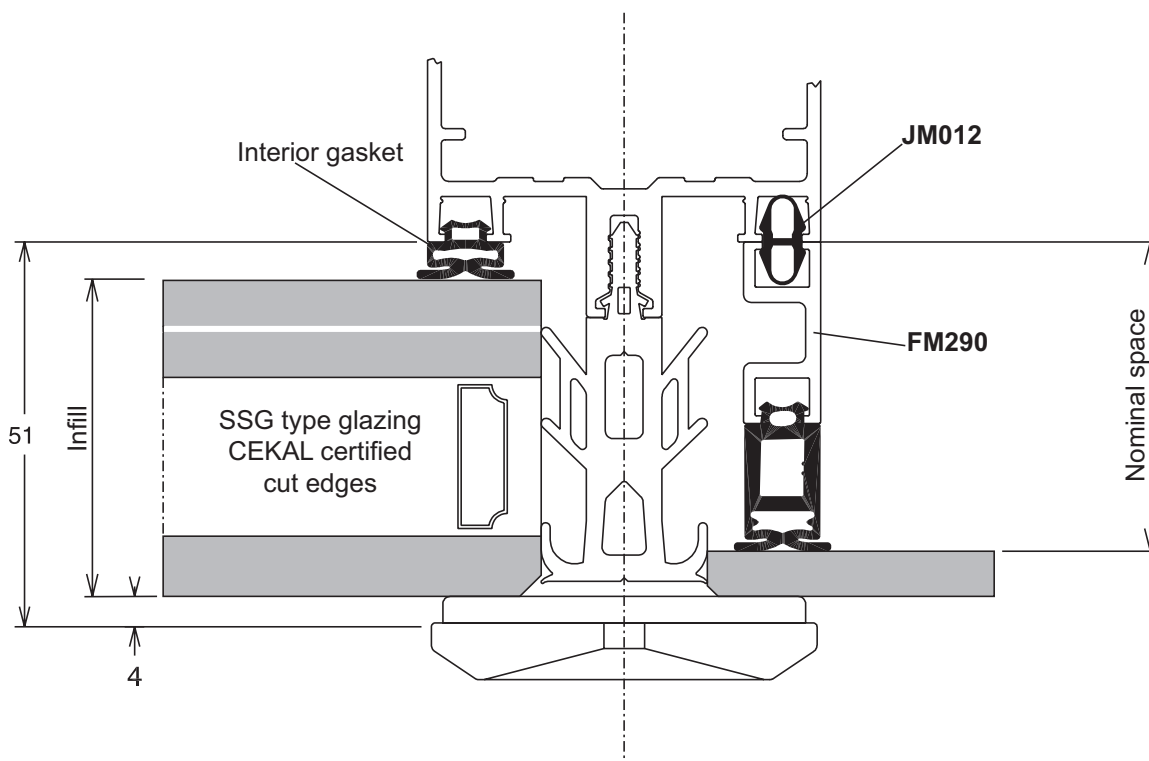
FM 290



geffc202

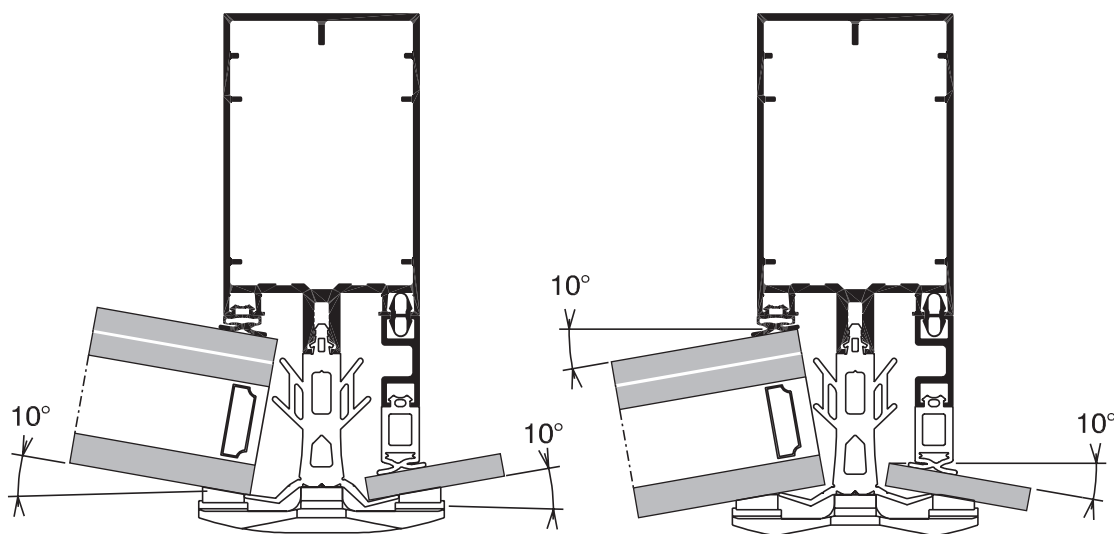
Glazing option

Horizontal 'trame' aspect from 0 to ± 10° max



OUTWARD CORNER
from 0° min to 10° max

INWARD CORNER
from 0° min to 10° max



Glazing option

Horizontal 'trame' aspect from 0 to ± 10° max

Infill in mm	Nominal space in mm	Glazing bead ref	Interior gasket ref
6	24 + 17	FM290	JM008
8	24 + 15	FM290	JM006
9 (44.2)	24 + 14	FM290	JM009
10	24 + 13	FM290	JM007
11 (55.2)	24 + 12	FM290	JM081
12	24 + 11	FM290	JM004
14	24 + 9	FM290	JM001
16	24 + 6	FM290	JM010
18	24 + 5	FM290	JM132
20	14 + 13	FM032	JM007
21	14 + 12	FM032	JM081
22	14 + 11	FM032	JM004
24	14 + 9	FM032	JM001
26	14 + 6	FM032	JM010
28	14 + 5	FM032	JM132
30	17	WITHOUT	JM008
32	15	WITHOUT	JM006
33	14	WITHOUT	JM009
34	13	WITHOUT	JM007
35	12	WITHOUT	JM081
36	11	WITHOUT	JM004
38	9	WITHOUT	JM001
40	6	WITHOUT	JM010
42	5	WITHOUT	JM132

JM132
5 mm



JM010
6 mm



JM001
9 mm



JM004
11 mm



JM081
12 mm



JM007
13 mm



JM009
14 mm



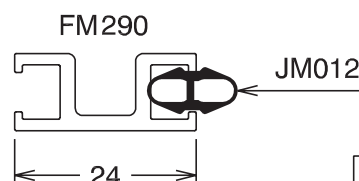
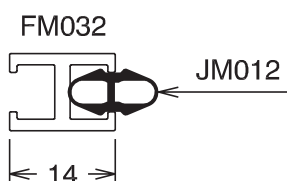
JM006
15 mm



JM008
17 mm



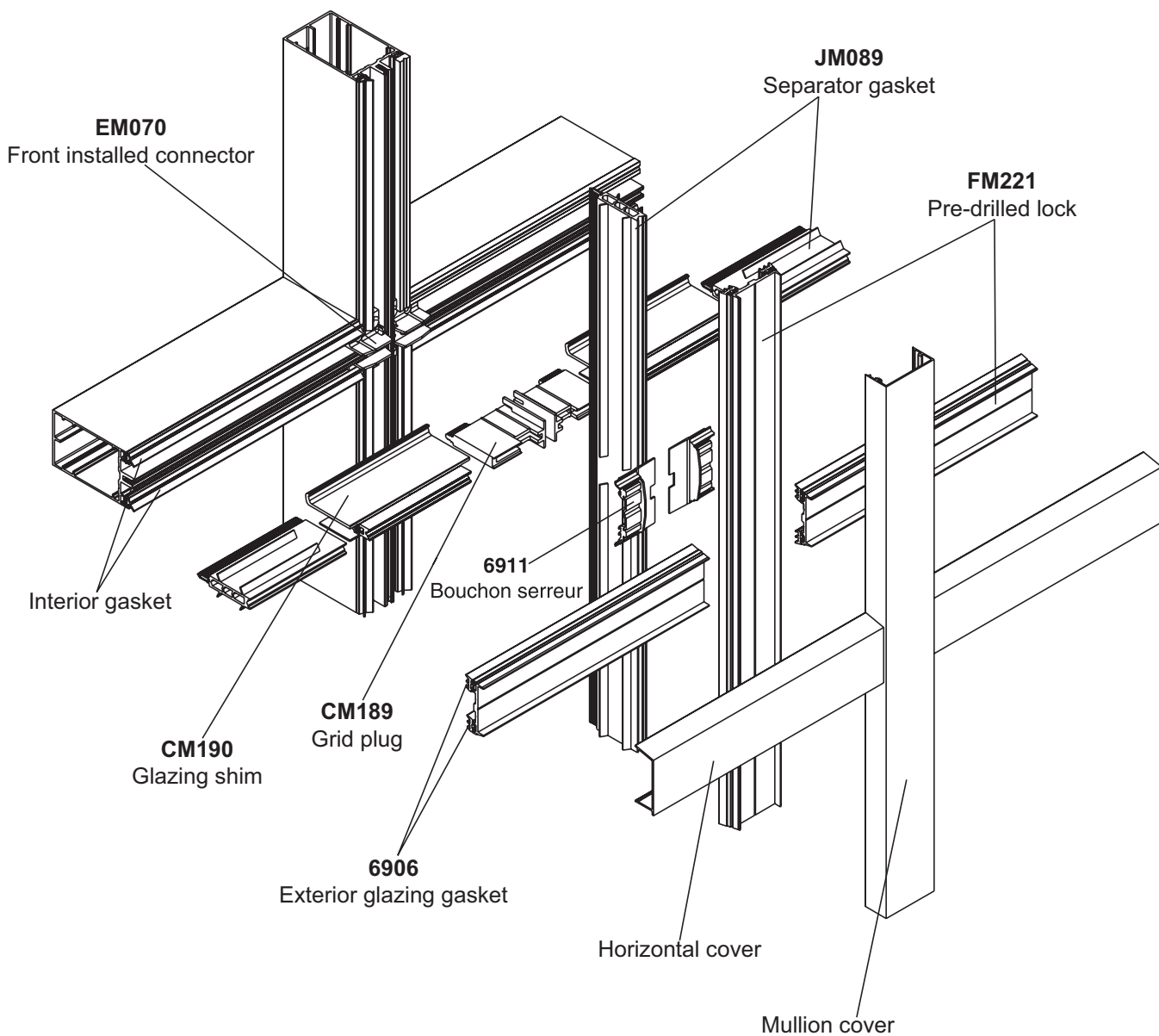
Possibility of installing with roller ref. **OM042**



geffc204

Exploded diagram

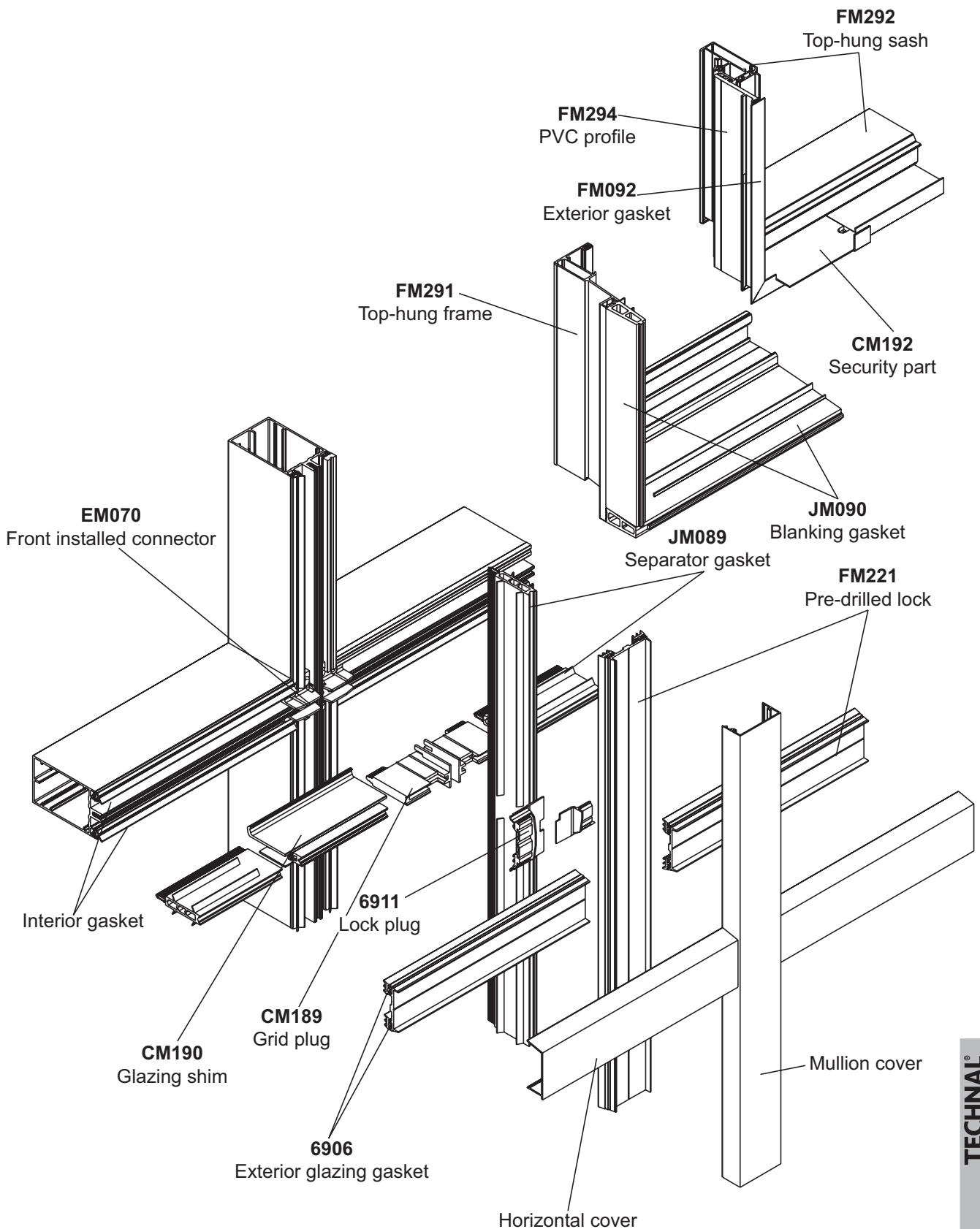
Fixed grid aspect



geffc205

Exploded diagram

Top-hung grid aspect

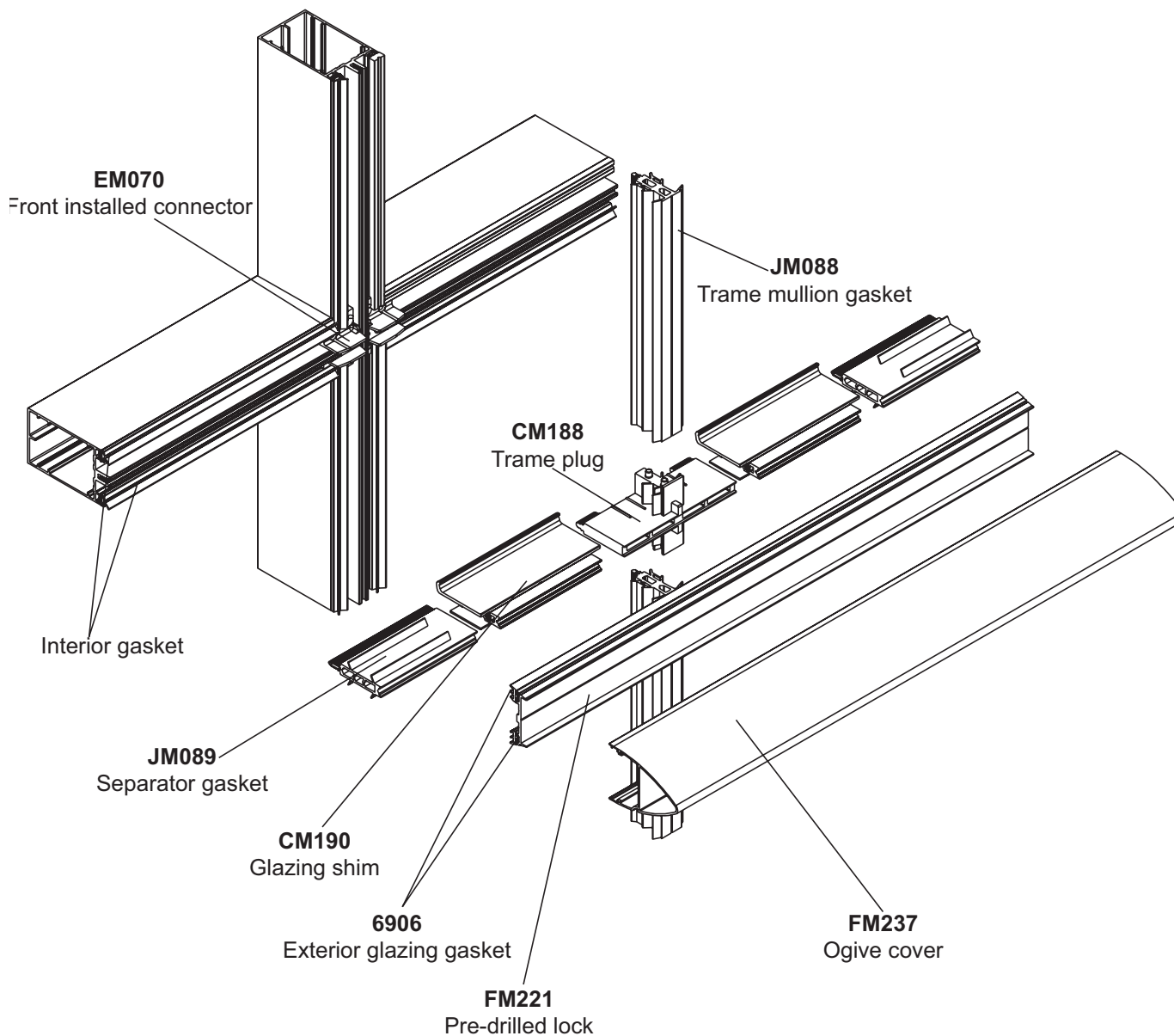


geffc206

Exploded diagram

Fixed horizontal 'trame' aspect

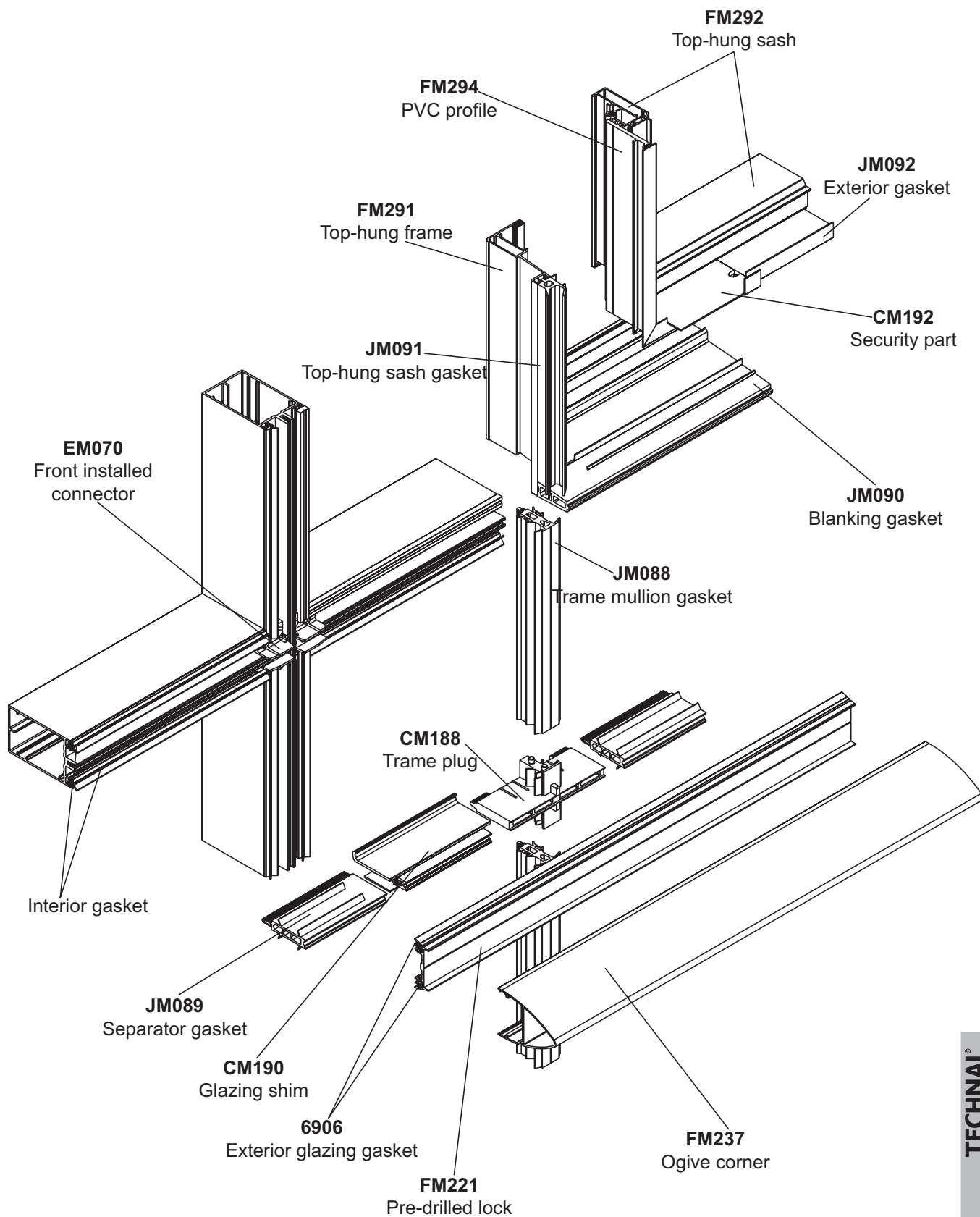
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geffc207

Exploded diagram

Top-hung horizontal 'trame' aspect



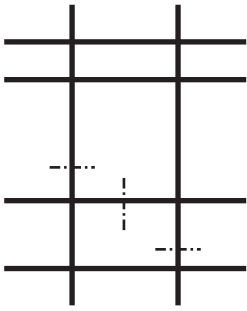
geffc208

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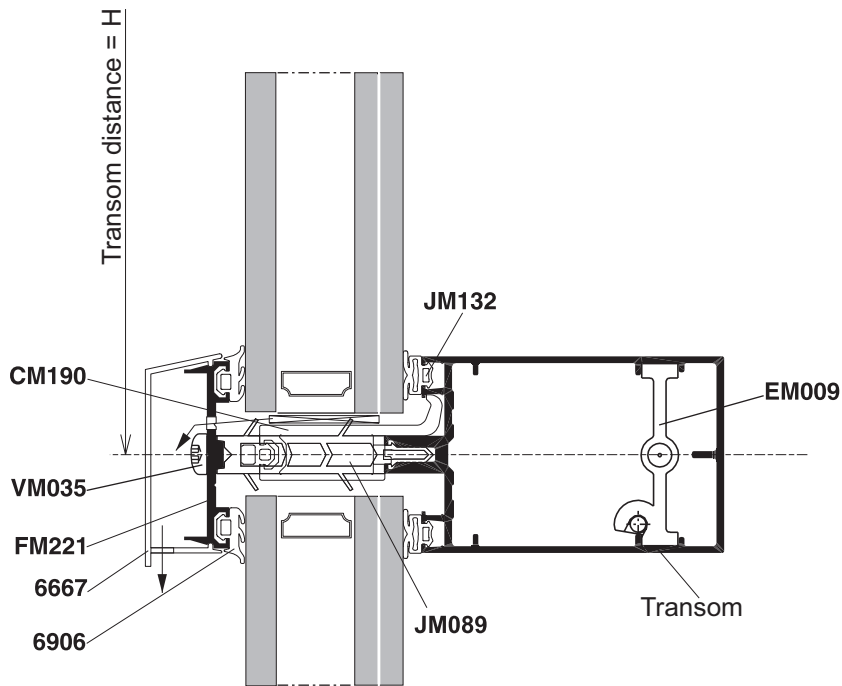
Applications

Fixed grid aspect

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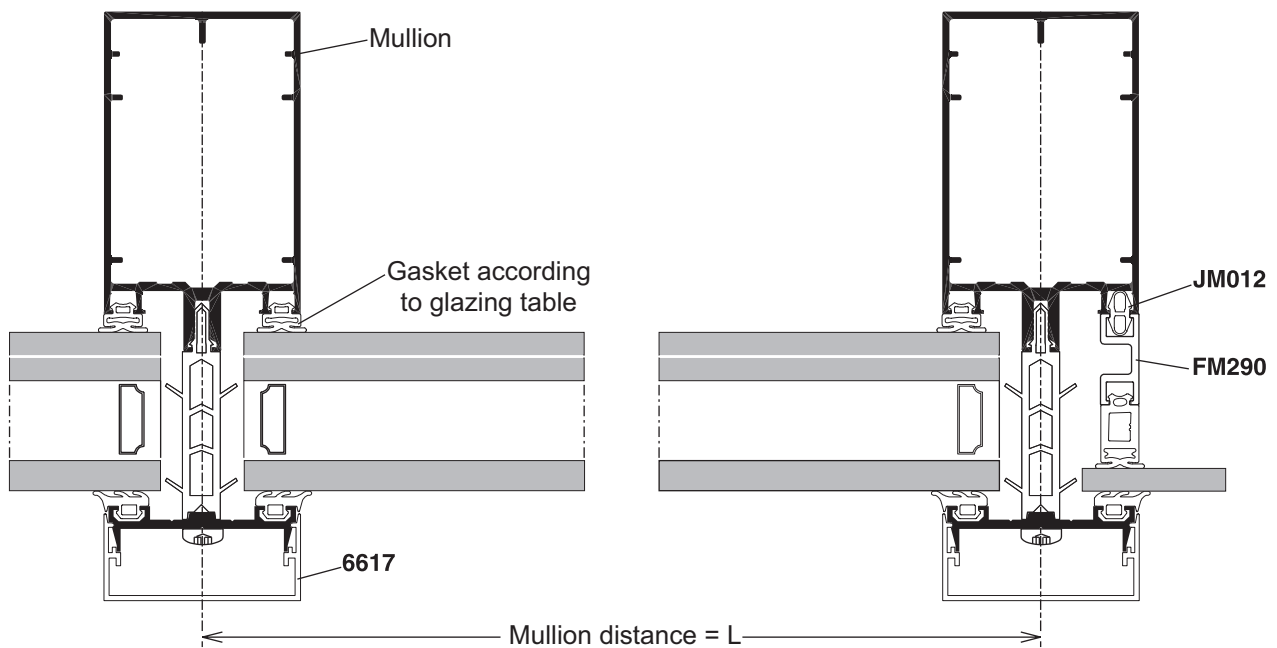


Vertical cross-section

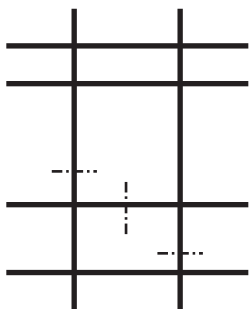


GLAZING DIMENSIONS
 Height = H - 22
 Width = L - 22

Horizontal cross-section



geffc211



Applications

Fixed grid aspect

PROFILES

Tolerances of sections = 0.5 mm

Ref.	Designation	Quantity	Sections		Cutting
			on H	on L	
	Mullion according to inertia	according to trames			H according to trames
	Transom according to inertia	according to trames			L - 52
	Glazing bead according to infill	according to infill			L - 52 H - 30
	Cover in mullion	according to trames			H according to trames
	Cover in transom	according to trames			L - 53
FM221	Lock	according to trames			L - 61 H according to trames

SEALING PROFILES

Ref.	Designation	Quantity	Sections		Cutting
			on H	on L	
6906	Exterior glazing gasket	2L + 2H			
JM012	Gasket for FM032 or FM290	see glazing bead			
JM089	Reinforced thermal separator gasket	according to trame			H according to trames L - 342
	Interior glazing gasket according to table	2L + 2H			

ACCESSORIES

Ref.	Designation	Quantity
6911	Lock plug	2 per transom
CM189	Transom plug	2 per transom
CM190	Glazing shim support	2 per transom
EM143	Pop rivet	1 per cover
VM035	Lock fixing screw	5/ml
Front installation assembly		
EM009	Anti-rotation	2 per transom
EM070	Connector	2 per transom
VE116	Screw CBLX ST 4.8-32c	2 per transom
VM034	Screw FX ST 4.8-19c	4 per transom
Advance installation assembly		
CM014	Connector plug	2 per transom
	Connector according to transom	2 per transom

TOOLS

Ref.	Designation
OM023	Pair of gasket scissors
OM042	Roller for interior glazing gasket
OM118	Cover lock machining tool
W150	Black butyl rubber base mastic

Front installation assembly

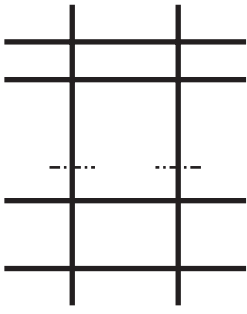
Ref.	Designation
OM100	Drill jig for connector EM070

Advance installation assembly

Ref.	Designation
OM004	Drill jig advance installation transom
OM006	Drill jig advance installation mullion

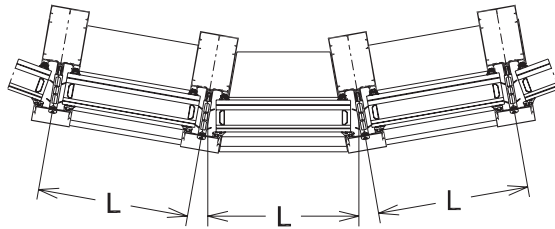
Glazing cutting

H - 22 L - 22

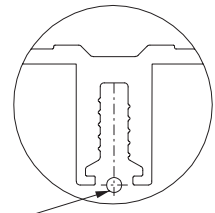
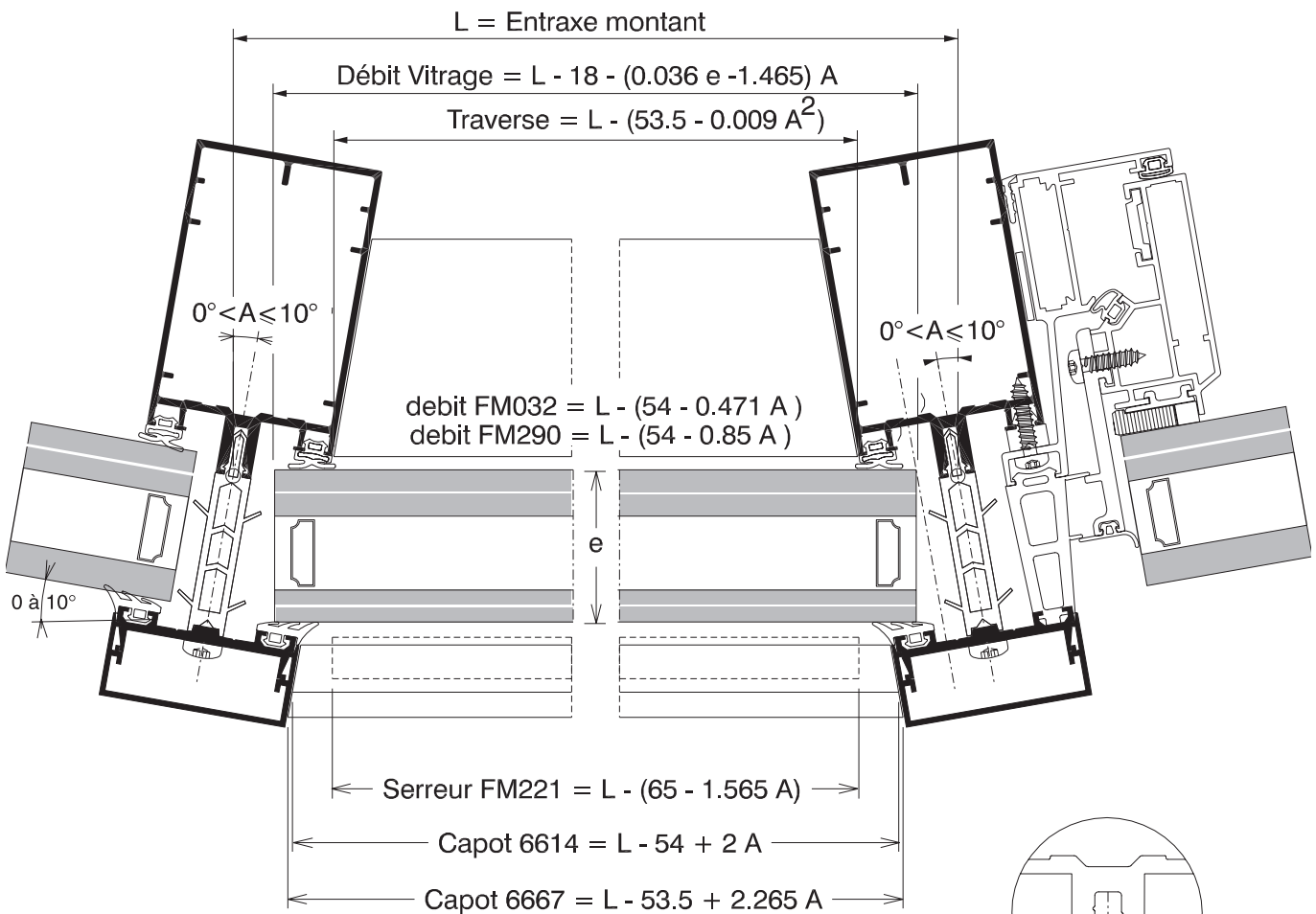


Applications

Fixed and top-hung architectural façade grid aspect outward angle 0° to 10° max



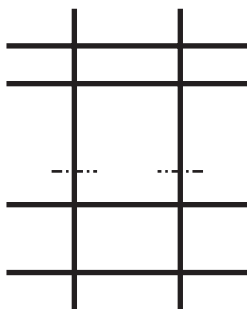
Horizontal cross-section



Point de référence sur la traverse et l'axe trame montant

NOTA :

Hauteur de la traverse toujours inférieure au montant
 Pose à l'avancement et de face ouvrant uniquement dans les parties planes
 Le débit ne prend pas en compte la dilatation des capots



Applications

Fixed and top-hung architectural façade grid aspect outward angle 0° to 10° max

PROFILES

Tolerances of sections = 0.5 mm

Ref.	Designation	Quantity	Sections		Cutting
			on H	on L	
	Mullion according to inertia	according to trames			H according to trames
	Transom according to inertia	according to trames		0 to 10°	L according to formula
	Glazing bead according to infill	according to infill			H - 30 L according to formula
6617	Cover in mullion	according to trames			H according to trames
6614 or 6667	Cover in transom	according to trames		0 to 10°	L according to formula
FM221	Lock	according to trames			H according to trames L according to formula

SEALING PROFILES

Ref.	Designation	Quantity	Sections		Cutting
			on H	on L	
6906	Exterior glazing gasket	2L + 2H			
JM012	Gasket for FM032 or FM290	see glazing bead			
JM089	Reinforced thermal separator gasket	according to trame			H according to trames L according to formula
	Interior glazing gasket according to table	2L + 2H			

ACCESSORIES

Ref.	Designation	Quantity
6911	Lock plug	2 per transom
CM189	Transom plug	2 per transom
CM190	Glazing shim support	2 per transom
EM143	Pop rivet	1 per cover
VM035	Lock fixing screw	5/ml
Front installation assembly		
EM009	Anti-rotation	2 per transom
EM070	Connector	2 per transom
VE116	Screw CBLX ST 4.8-32c	2 per transom
VM034	Screw FX ST 4.8-19c	4 per transom
Advance installation assembly		
CM014	Connector plug	2 per transom
Profile FM093 to cut according to angle	Connector	2 per transom
VE101	Connector fixing screw	8 per transom

TOOLS

Ref.	Designation
OM023	Pair of gasket scissors
OM042	Roller for interior glazing gasket
OM118	Cover lock machining tool
W150	Black butyl rubber base mastic

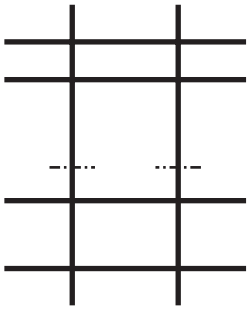
Front installation assembly

Ref.	Designation
OM100	Drill jig for connector EM070

Advance installation assembly

Ref.	Designation
OM004	Drill jig advance installation transom
OM006	Drill jig advance installation mullion

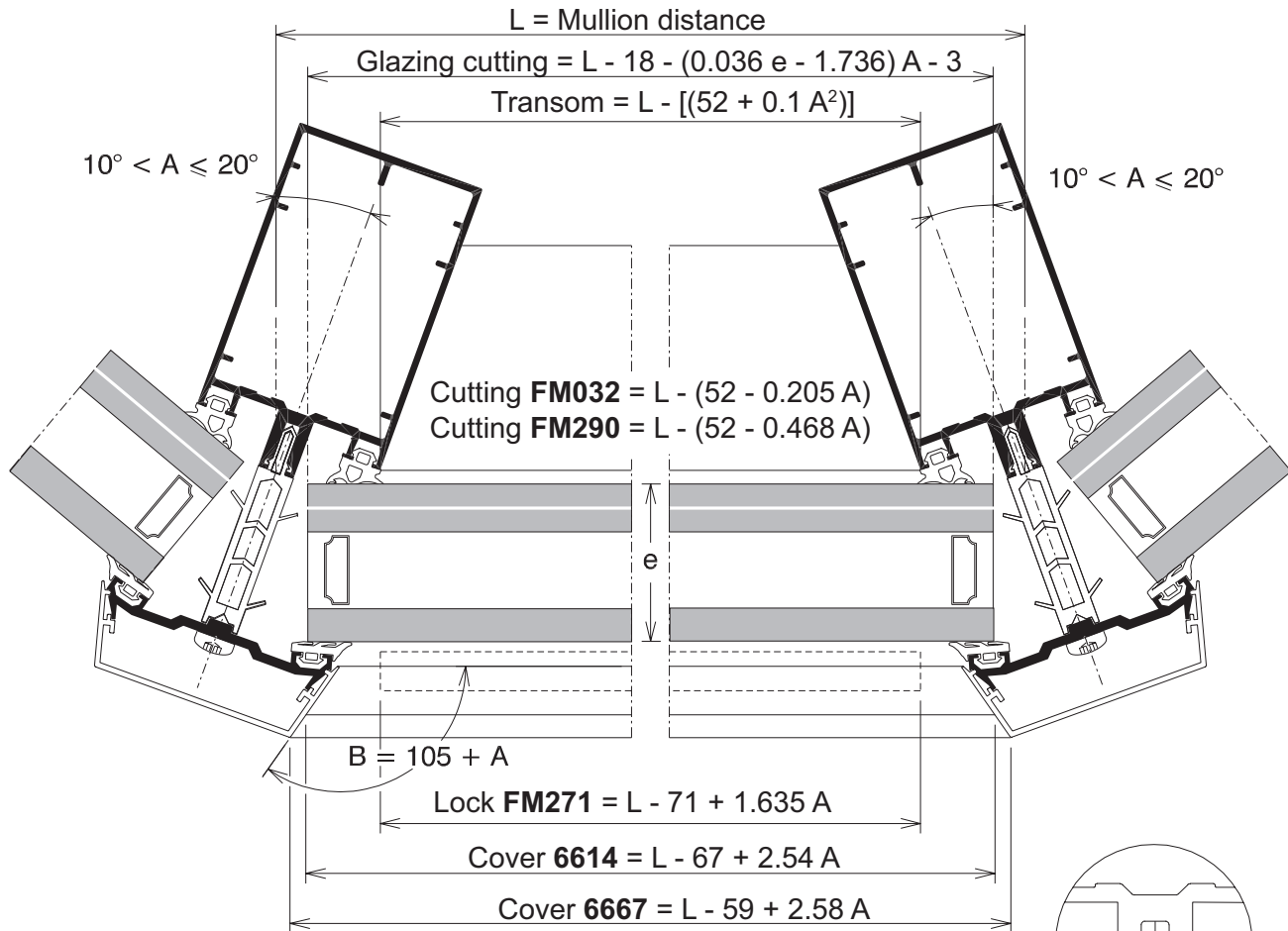
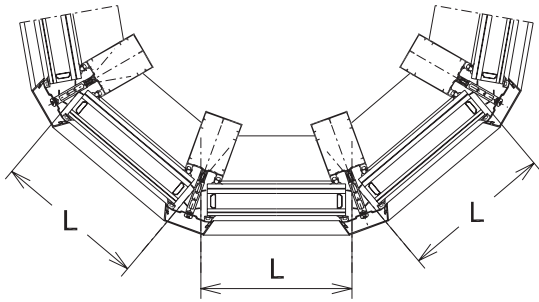
Glazing cutting
according to formula



Applications

Fixed architectural façade grid aspect outward corner 10° min to 20° max

Horizontal cross-section

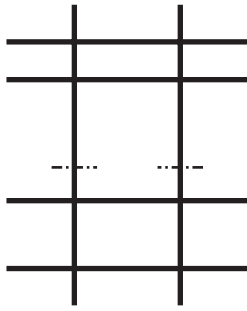


e = Thickness of volume
 A = Cover section angle

Reference point on transom and mullion frame axis

NOTE :

- Transom height always less than mullion
- Advance installation only with profile **FM093** to cut to angle
- Sash only in flat parts
- Cutting does not allow for cover expansion



Applications

Fixed architectural façade grid aspect outward corner 10° min to 20° max

PROFILES

Tolerances of sections = 0.5 mm

Ref.	Designation	Quantity	Sections		Cutting
			on H	on L	
	Mullion according to inertia	according to frames			H according to frames
	Transom according to inertia	according to frames		10° to 20°	L according to formula
	Glazing bead according to infill	according to infill			H - 30 L according to formula
6614 or 6667	Cover in transom	according to frames		10° to 20°	L according to formula
FM015	Cover in mullion	according to frames			H according to frames
FM221	Lock in transom	according to frames			L according to formula
FM271	Lock in mullion	according to frames			H according to frames

SEALING PROFILES

Ref.	Designation	Quantity	Sections		Cutting
			on H	on L	
6906	Exterior glazing gasket	2L + 2H			
JM012	Gasket for FM032 or FM290	see glazing bead			
JM089	Reinforced thermal separator gasket	according to frame			H according to frames L according to formula
	Interior glazing gasket according to table	2L + 2H			

ACCESSORIES

Ref.	Designation	Quantity
6911	Lock plug	2 per transom
CM190	Glazing shim support	2 per transom
EM143	Pop rivet	1 per cover
VM035	Lock fixing screw	5/ml
Advance installation assembly		
CM014	Connector plug	2 per transom
Profile FM093 to cut according to corner	Connector	2 per transom
VE101	Connector fixing screw	8 per transom

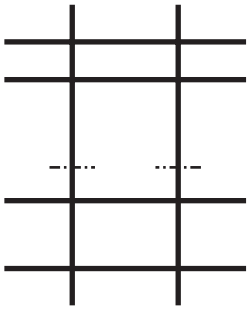
TOOLS

Ref.	Designation
OM023	Pair of gasket scissors
OM042	Roller for interior glazing gasket
OM118	Cover lock machining tool
W150	Black butyl rubber base mastic

Advance installation assembly

Ref.	Designation
OM004	Drill jig advance installation transom
OM006	Drill jig advance installation mullion

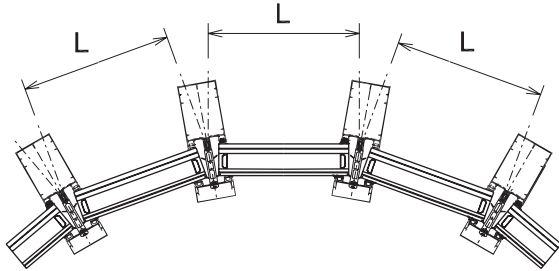
Glazing cutting
according to formula



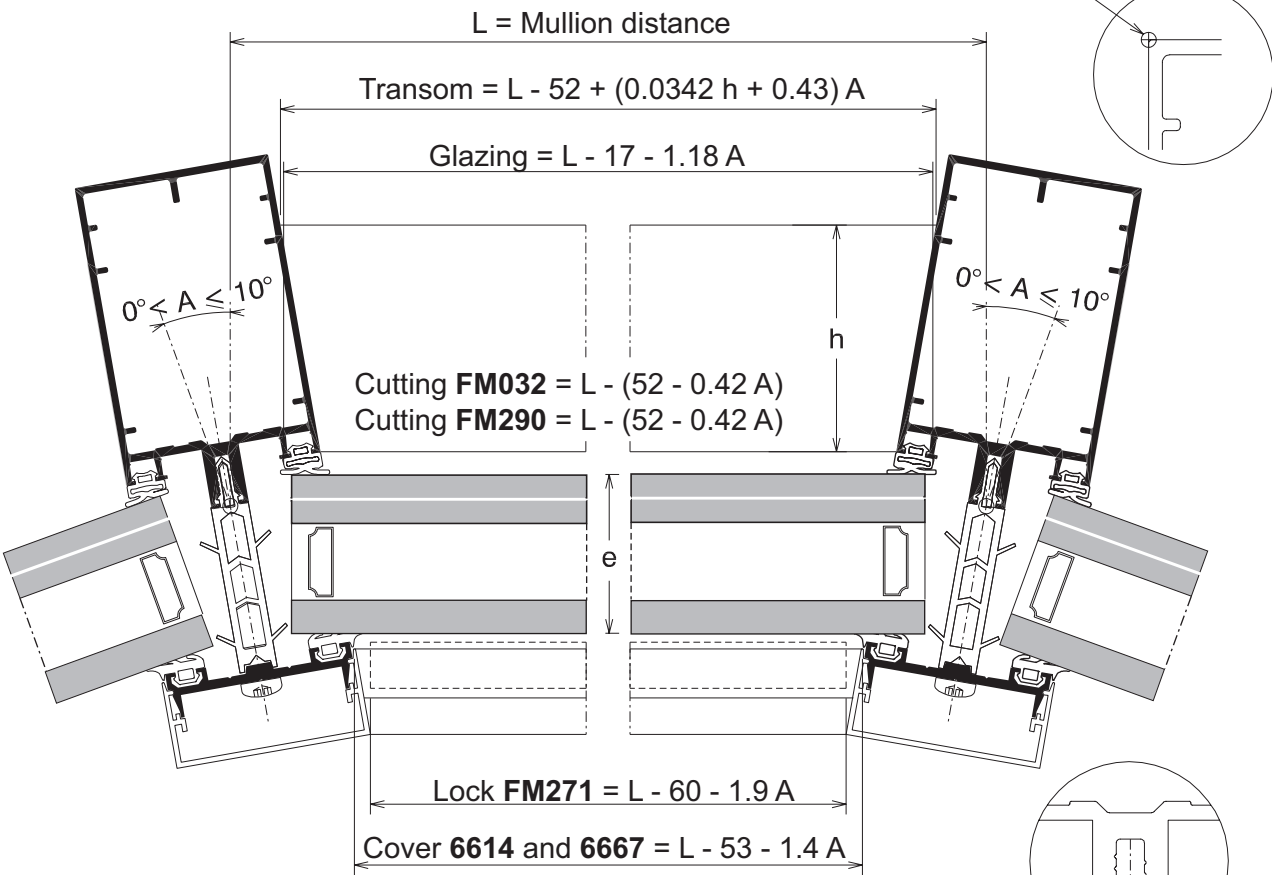
Applications

Fixed architectural façade grid aspect inward corner 0° to 10° max

Horizontal cross-section



Reference point on transom

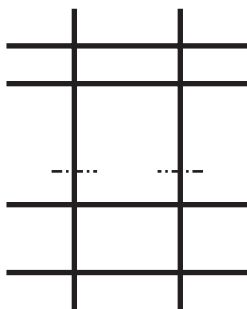


$e = \text{Thickness of volume}$
 $h = \text{Height of transom}$
 $A = \text{Cover section angle}$

Reference point for mullion frame axis

NOTE :

Transom height always less than mullion
 Advance installation only in flat parts
 Cutting does not allow for cover expansion



Applications

Fixed architectural façade grid aspect inward corner 0° to 10° max

PROFILES

Tolerances of sections = 0.5 mm

Ref.	Designation	Quantity	Sections		Cutting
			on H	on L	
	Mullion according to inertia	according to trames			H according to trames
	Transom according to inertia	according to trames		0 to 10°	L according to formula
	Glazing bead according to infill	according to infill			H - 30 L according to formula
6614 or 6667	Cover in transom	according to trames		0 to 10°	L according to formula
6617	Cover in mullion	according to trames			H according to trames
FM221	Lock	according to trames			H according to trames L according to formula

SEALING PROFILES

Ref.	Designation	Quantity	Sections		Cutting
			on H	on L	
6906	Exterior glazing gasket	2L + 2H			
JM012	Gasket for FM032 or FM290	see glazing bead			
JM089	Reinforced thermal separator gasket	according to trame			H according to trames L according to formula
	Interior glazing gasket according to table	2L + 2H			

ACCESSORIES

Ref.	Designation	Quantity
6911	Lock plug	2 per transom
CM189	Transom plug	2 per transom
CM190	Glazing shim support	2 per transom
EM143	Pop rivet	1 per cover
VM035	Lock fixing screw	5/ml
Advance installation assembly		
CM014	Connector plug	2 per transom
Profile FM093 to cut according to angle	Connector	2 per transom
VE101	Connector fixing screw	8 per transom

TOOLS

Ref.	Designation
OM023	Pair of gasket scissors
OM042	Roller for interior glazing gasket
OM118	Cover lock machining tool
W150	Black butyl rubber base mastic

Advance installation assembly

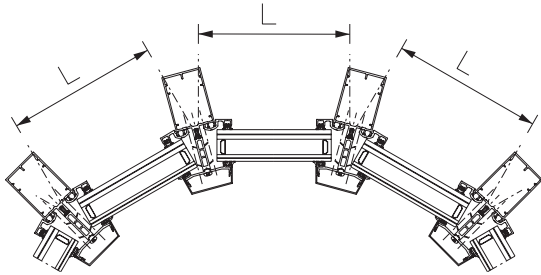
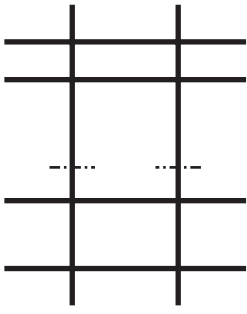
Ref.	Designation
OM004	Drill jig advance installation transom
OM006	Drill jig advance installation mullion

Glazing cutting
according to formula

Applications

**Fixed architectural façade grid aspect
inward corner 10° min to 20° max**

TECHNAL®

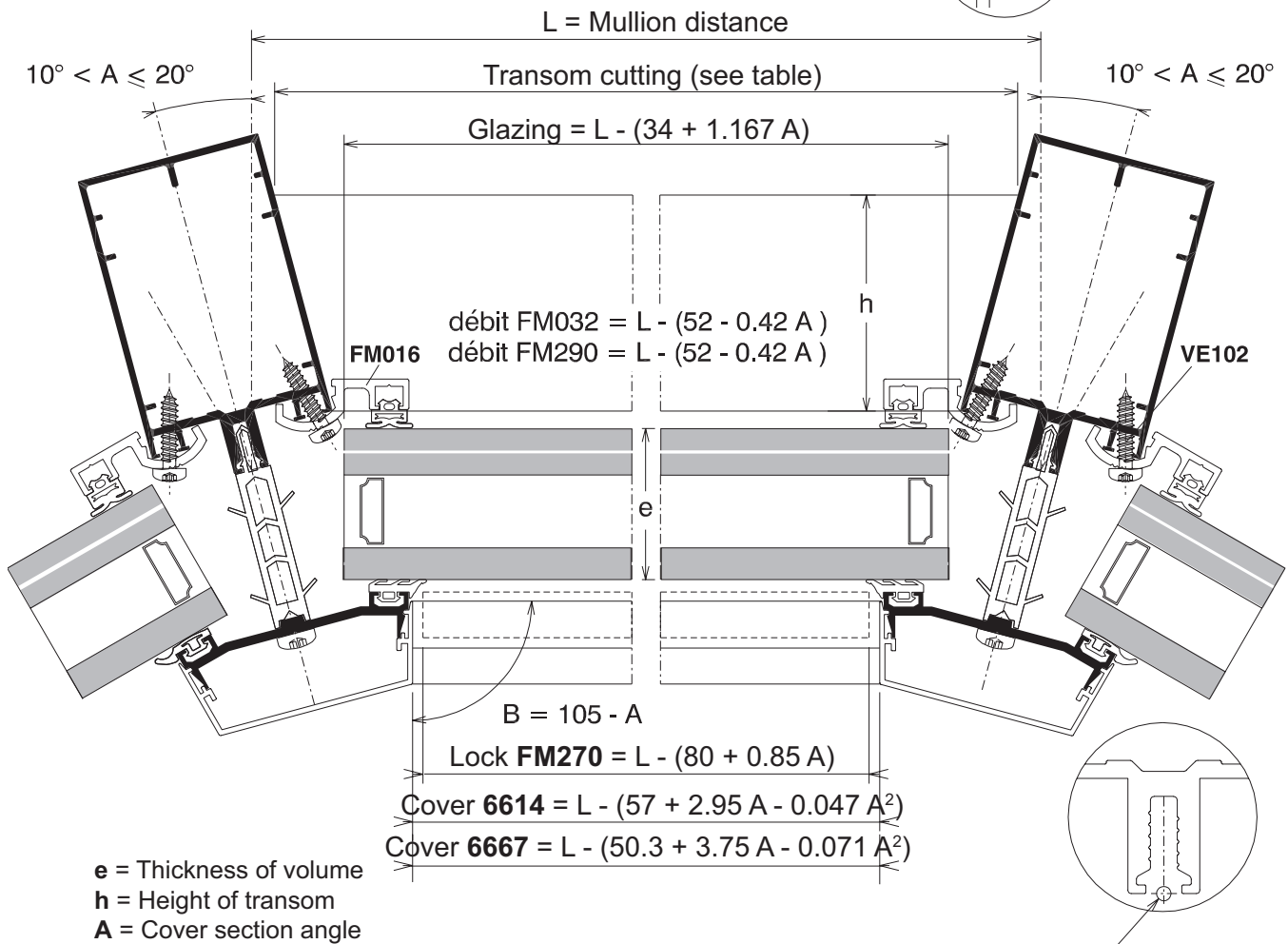


Débit de la traverse (suivant la référence utilisée)

FM166	= L - 52 + 0.014 A ² + 1.65	A + 0.45
FM252	= L - 52 + 0.0156 A ² + 1.98	A + 0.54
FM155	= L - 52 + 0.0174 A ² + 2.3	A + 0.67
FM100	= L - 52 + 0.0195 A ² + 2.73	A + 0.81
FM156	= L - 52 + 0.0208 A ² + 2.95	A + 0.89
FM253	= L - 52 + 0.0228 A ² + 3.264	A + 1.09
FM169	= L - 52 + 0.0244 A ² + 3.59	A + 1.17
FM254	= L - 52 + 0.0262 A ² + 3.913	A + 1.31
FM157	= L - 52 + 0.0282 A ² + 4.23	A + 1.47
FM158	= L - 52 + 0.0316 A ² + 4.88	A + 1.69
FM255	= L - 52 + 0.0334 A ² + 5.2	A + 1.83
FM256	= L - 52 + 0.0352 A ² + 5.52	A + 1.97
FM257	= L - 52 + 0.0402 A ² + 6.495	A + 2.3
MX2604	= L - 52 + 0.0418 A ² + 6.812	A + 2.32
MX2603	= L - 52 + 0.0581 A ² + 7.121	A + 2.53
FM160	= L - 52 + 0.0492 A ² + 8.1	A + 3

Horizontal cross-section

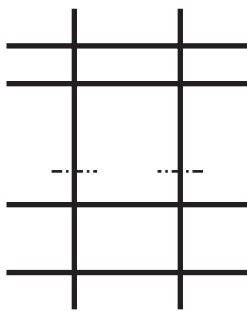
Reference point on transom



NOTE :

Transom height always less than mullion
 Advance installation only with profile **FM093** to cut to angle
 Sash only in flat parts
 Cutting does not allow for cover expansion

Reference point for mullion frame axis



Applications

Fixed architectural façade grid aspect inward corner 10° min to 20° max

PROFILES

Tolerances of sections = 0.5 mm

Ref.	Designation	Quantity	Sections		Cutting
			on H	on L	
	Mullion according to inertia	according to frames			H according to frames
	Transom according to inertia	according to frames		10 to 20°	L according to formula
	Glazing bear according to infill	according to infill			H - 30 L according to formula
6614 or 6667	Cover in transom	according to frames		10 to 20°	L according to formula
FM015	Cover in mullion	according to frames			H according to frames
FM016	Rebate added	according to frames			H - 52.5
FM221	Lock in transom	according to frames			L according to formula
FM270	Lock in mullion	according to frames			H according to frames

SEALING PROFILES

Ref.	Designation	Quantity	Sections		Cutting
			on H	on L	
6906	Exterior glazing gasket	2L + 2H			
JM012	Gasket for FM032 or FM290	see glazing bead			
JM089	Reinforced thermal separator gasket	according to frame		10 to 20°	H according to frames L according to formula
	Interior glazing gasket according to table	2L + 2H			

ACCESSORIES

Ref.	Designation	Quantity
6911	Lock plug	2 per transom
CM190	Glazing shim support	2 per transom
EM143	Pop rivet	1 per cover
VE102	Fixing screw FM016	4/ml
VM035	Lock fixing screw	5/ml
Advance installation assembly		
CM014	Connector plug	2 per transom
Profile FM093 to cut according to angle	Connector	2 per transom
VE101	Connector fixing screw	8 per transom

TOOLS

Ref.	Designation
OM023	Pair of gasket scissors
OM042	Roller for interior glazing gasket
OM118	Cover lock machining tool
W150	Black butyl rubber base mastic

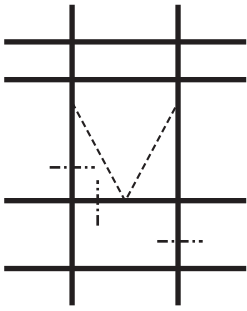
Advance installation assembly

Ref.	Designation
OM004	Drill jig advance installation transom
OM006	Drill jig advance installation mullion

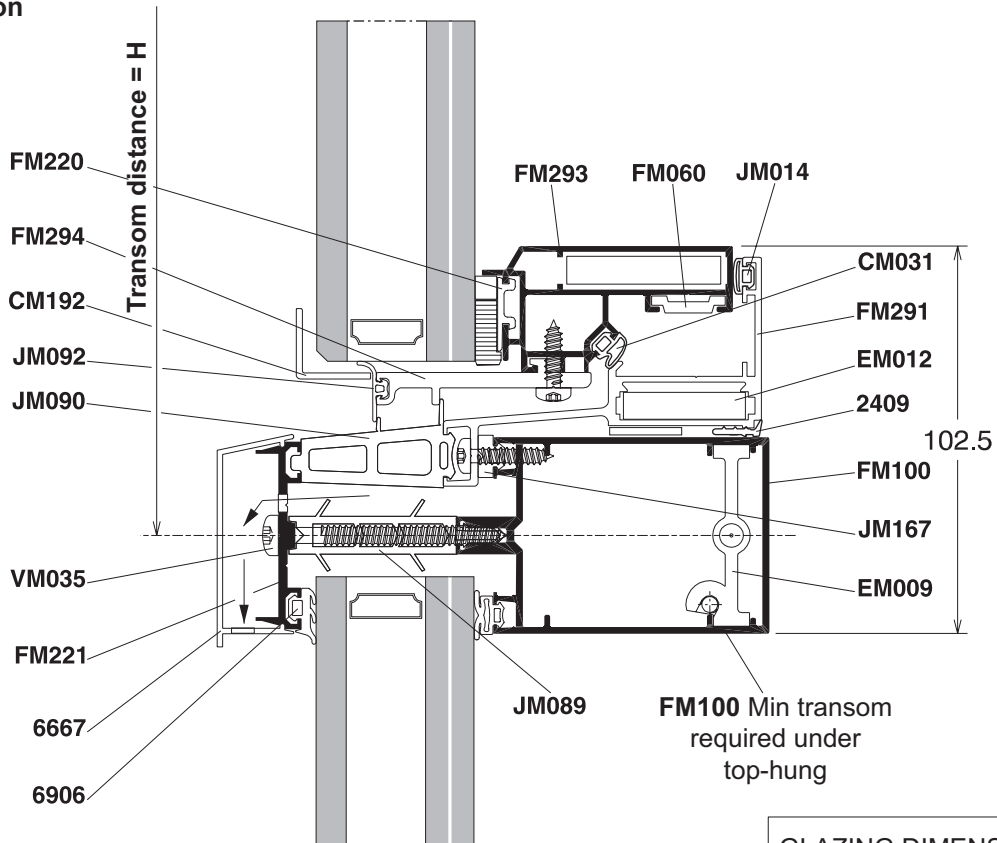
Glazing cutting
according to formula

Applications

Top-hung grid aspect

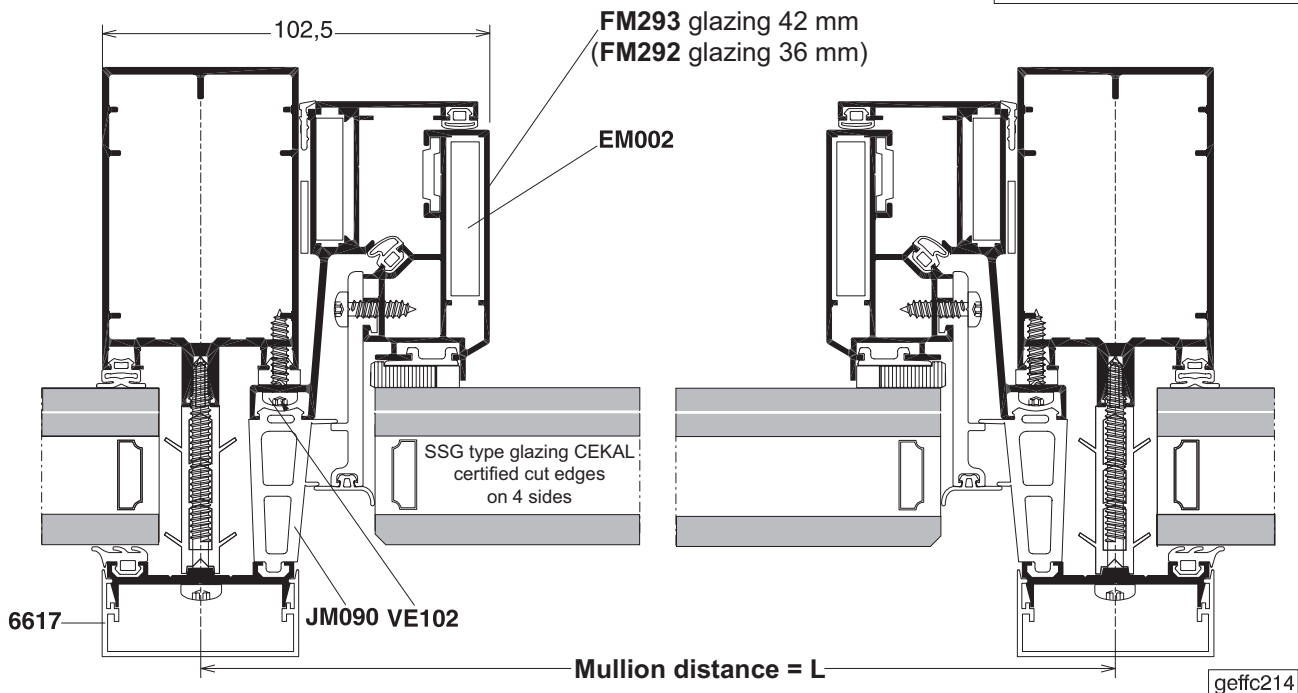


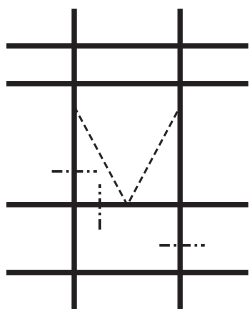
Vertical cross-section



GLAZING DIMENSIONS
 Height = H - 92
 Width = L - 92

Horizontal cross-section





Applications

Top-hung grid aspect

PROFILES

Tolerances of sections = 0.5 mm

Ref.	Designation	Quantity	Sections		Cutting
			on H	on L	
FM060	Cremona rod	1			see page hardware
FM220	Glue stick	2L + 2H			H - 97.5 L - 97.5
FM291	Frame	2L + 2H			H - 26 L - 26
FM292	Glazing sash 36 mm	2L + 2H			H - 86 L - 86
FM293	Glazing sash 42 mm	2L + 2H			H - 86 L - 86
FM294	PVC protection profile	2L + 2H			H - 69 L - 326

SEALING PROFILES

Ref.	Designation	Quantity	Sections		Cutting
			on H	on L	
2409	Frame/framework finish	2L + 2H			
CM031	Interior sealing sash/frame	1 (4 corners 1+1 ml)			
JM014	Frame rebate	2L + 2H			
JM090	Rebate blanking	2L + 2H			
JM092	Sash exterior gasket	2L + 2H			
JM167	Structure frame sealing	2L + 2H			

ACCESSORIES

Ref.	Designation	Quantity
CM028	Glazing shim	2
CM192	Security part	1
EM002	Sash corner-cleat	4
EM012	Frame corner-cleat	4
VE031	Fixing screw for profile FM294	3/ml
VE102	Fixing screw FM016	4/ml

Glazing cutting

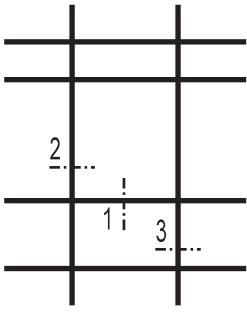
H - 92 L - 92

TOOLS

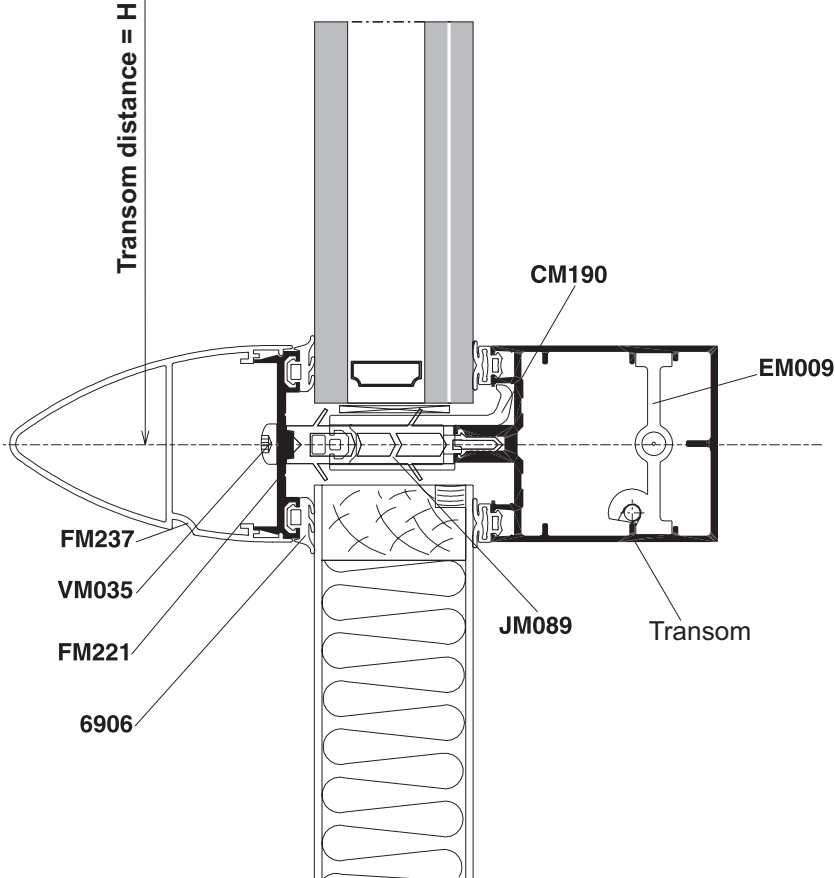
Ref.	Designation
OM023	Pair of gasket scissors
OM065	Drill jig for machining strike/locking wedge frame
OM119	Machining pneumatic tool rod + tipping
OM135	Drill jig for machining frame for limiter
OM137	Drill jig for machining sash for limiter
OM139	Drill jig for machining Security parts

Applications

Fixed horizontal 'trame' aspect

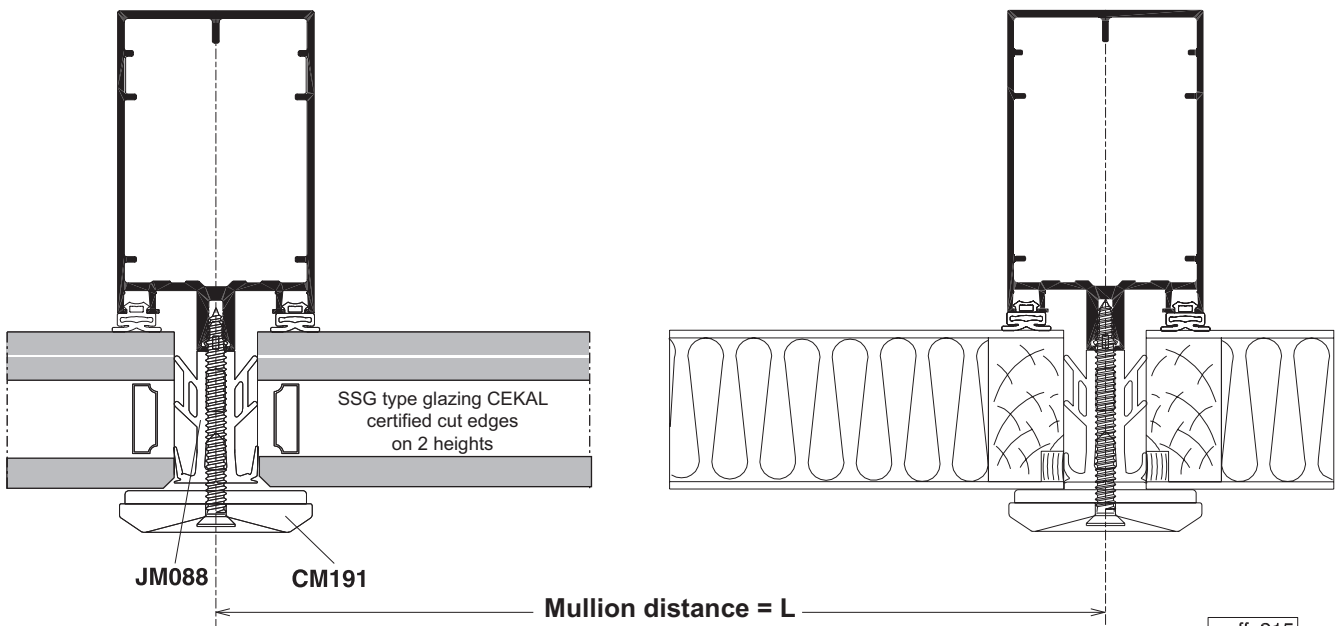


Vertical cross-section

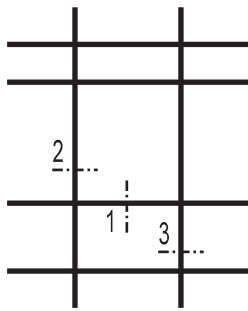


GLAZING DIMENSIONS
 Height = H - 22
 Width = L - 22

Horizontal cross-section



geffc215



Applications

Fixed horizontal 'trame' aspect

PROFILES

Tolerances of sections = 0.5 mm

Ref.	Designation	Quantity	Sections		Cutting
			on H	on L	
	Mullion according to inertia	according to frames			H according to frames
	Transom according to inertia	according to frames			L - 52
	Glazing bead according to infill	according to infill			H - 30 L - 52
	Cover in transom	according to frames			L according to frames
FM221	Lock	according to frames			L according to frames

SEALING PROFILES

Ref.	Designation	Quantity	Sections		Cutting
			on H	on L	
6906	Exterior glazing gasket	2L + 2H			
JM012	Gasket for FM032 or FM290	see glazing bead			
JM088	Horizontal trame mullion gasket	H			H - 48
JM089	Reinforced thermal separator gasket	L			L - 342
	Interior glazing gasket according to table	2L + 2H			

ACCESSORIES

Ref.	Designation	Quantity
CM188	Sealing plug TH	1 per assembly
CM190	Glazing shim support	2 per transom
CM191	Presser	see table
EM143	Pop rivet	1 per cover
VM035	Lock fixing screw	5/ml
Option		
CM027	Side plate for FM237	1 at end of cover
CM628	Splice plate for FM237	according to frames
Front installation assembly		
EM009	Anti-rotation	2 per transom
EM070	Connector	2 per transom
VE116	Screw CBLX ST 4.8-32c	2 per transom
VM034	Screw FX ST 4.8-19c	4 per transom
Advance installation assembly		
CM014	Connector plug	2 per transom
	Connector according to transom	2 per transom

TOOLS

Ref.	Designation
OM023	Pair of gasket scissors
OM042	Roller for interior glazing gasket
OM118	Cover lock machining tool
W150	Black butyl rubber base mastic

Front installation assembly

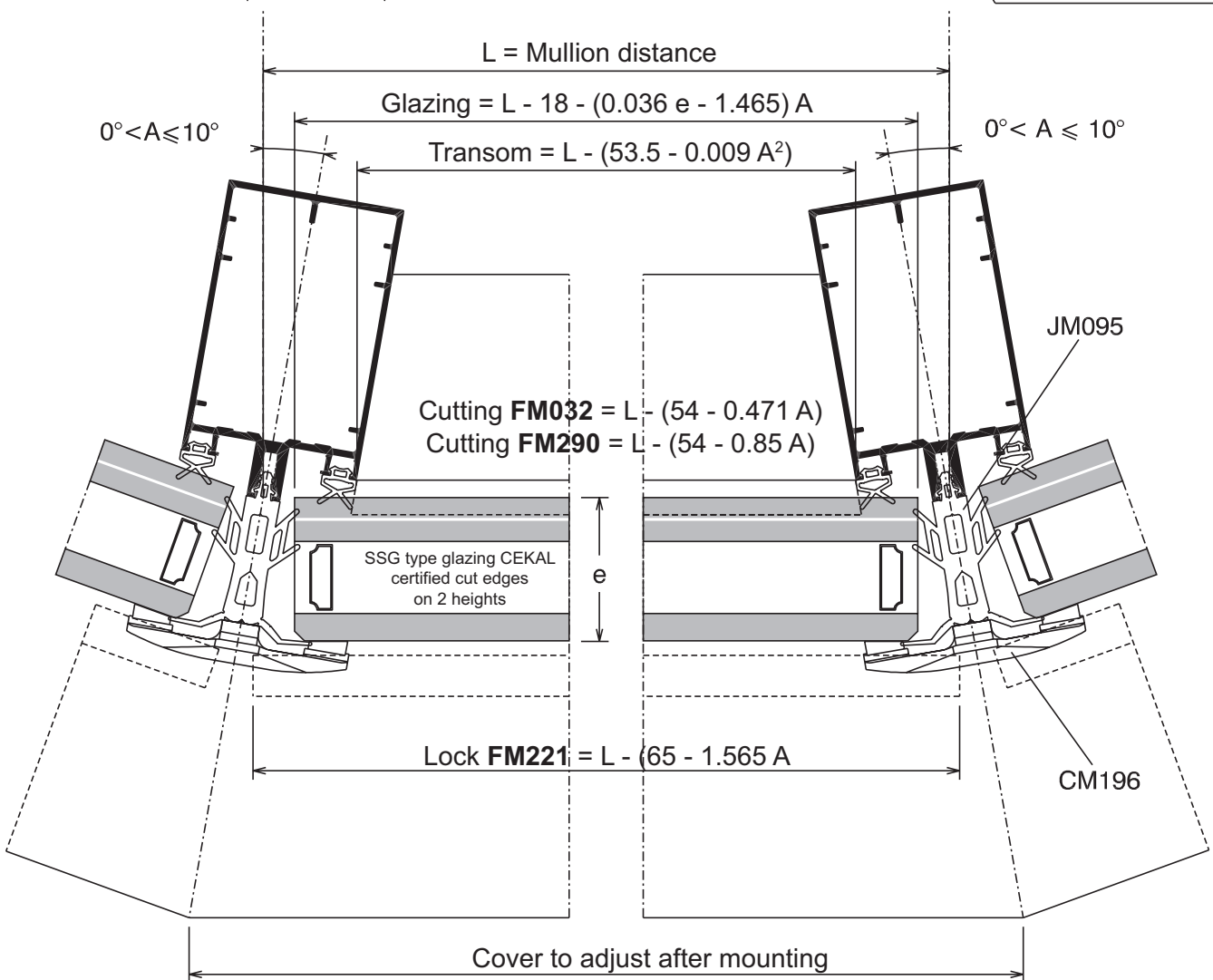
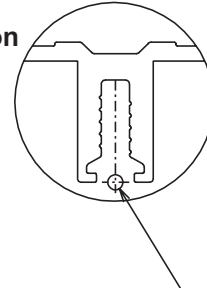
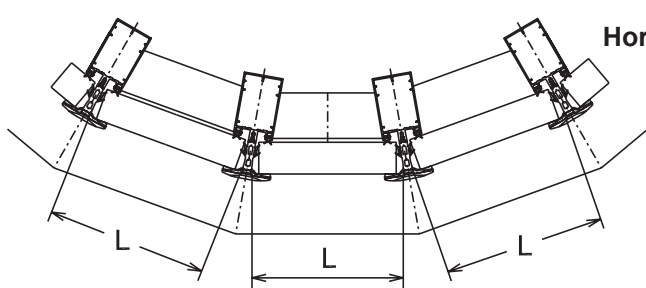
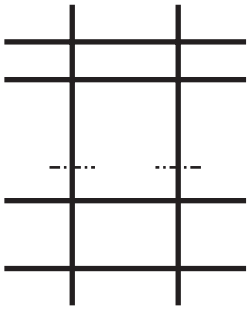
Ref.	Designation
OM100	Drill jig for connector EM070

Advance installation assembly

Ref.	Designation
OM004	Drill jig advance installation transom
OM006	Drill jig advance installation mullion

Applications

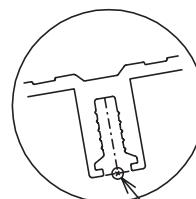
Fixed architectural façade 'trame' aspect
horizontal outward corner 0° to 10° max

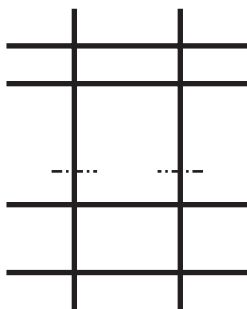


e = Thickness of volume
A = Cover section angle
h = Transom height

NOTE :

Transom height always less than mullion
 Advance and front installation
 Sash only in flat parts
 Cutting does not allow for expansion



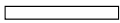
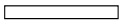
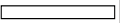
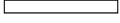
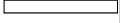


Applications


Fixed architectural façade 'trame' aspect horizontal outward corner 0° to 10° max

PROFILES

Tolerances of sections = 0.5 mm

Ref.	Designation	Quantity	Sections		Cutting
			on H	on L	
	Mullion according to inertia	according to trames			H according to trames
	Transom according to inertia	according to trames		0 to 10°	L according to formula
	Glazing bead according to infill	according to infill			H - 30 L according to formula
	Cover in transom	according to trames		0 to 10°	L according to formula
FM221	Lock	according to trames			H according to trames L according to formula

SEALING PROFILES

Ref.	Designation	Quantity	Sections		Cutting
			on H	on L	
	Interior glazing gasket according to table	2L + 2H			
JM012	Gasket for FM032 or FM290	see glazing bead			
JM089	Separator gasket reinforced thermal	L			L according to trame
6906	Exterior glazing gasket	2L + 2H			
JM095	Horizontal trame mullion gasket	H			H - 48

ACCESSORIES

Ref.	Designation	Quantity
CM188	Horizontal trame sealing plug	2 per transom
CM190	Glazing shim support	2 per transom
CM196	Presser	see table
EM143	Pop rivet	1 per cover
VM035	Lock fixing screw	5/ml on L
Option		
CM027	Side plate for FM237	1 at end of cover
CM628	Splice plate for FM237	according to trames
Front installation assembly		
EM009	Anti-rotation	2 per transom
EM070	Connector	2 per transom
VE116	Screw CBLX ST 4.8-32c	2 per transom
VM034	Screw FX ST 4.8-19c	4 per transom
Advance installation assembly		
CM014	Connector plug	2 per transom
Profile FM093 to cut according to angle	Connector	2 per transom
VE101	Connector fixing screw	8 per transom

TOOLS

Ref.	Designation
OM023	Pair of gasket scissors
OM042	Roller for interior glazing gasket
OM118	Cover lock machining tool
W150	Black butyl rubber base mastic

Front installation assembly

Ref.	Designation
OM100	Drill jig for connector EM070

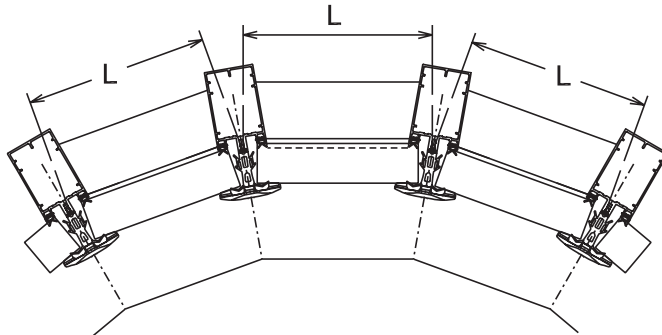
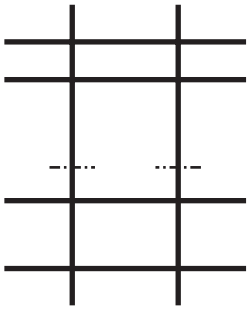
Advance installation assembly

Ref.	Designation
OM004	Drill jig advance installation transom
OM006	Drill jig advance installation mullion

Glazing cutting
according to formula

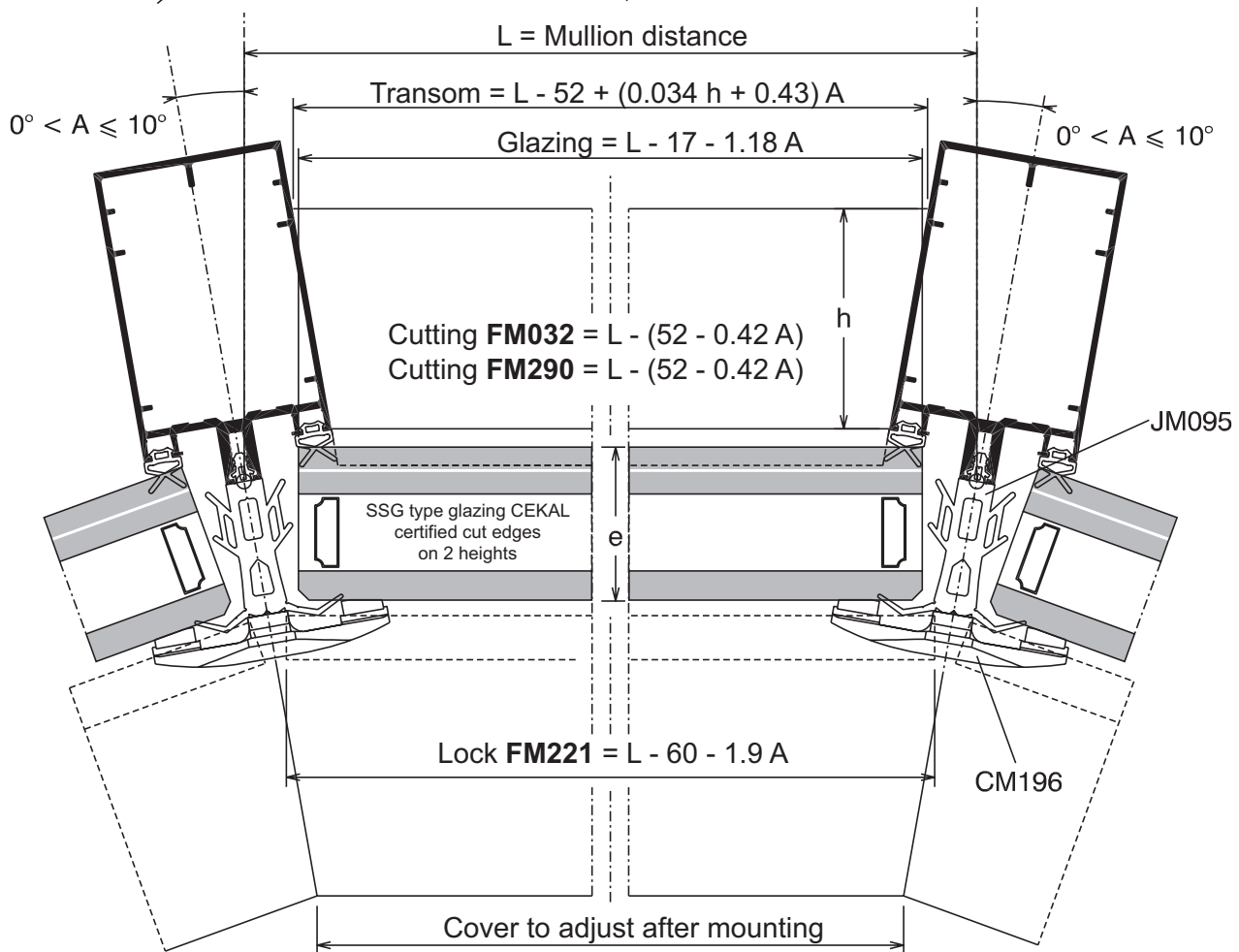
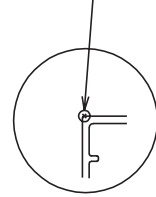
Applications

Fixed architectural façade 'trame' aspect
horizontal inward corner 0° to 10° max



Horizontal cross-section

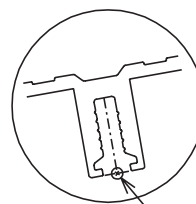
Reference point on transom



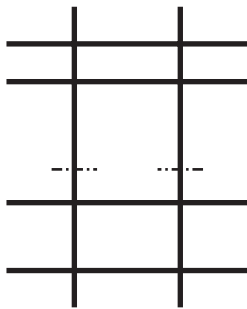
e = Thickness of volume
 A = Cover section angle
 h = Transom height

NOTE :

Transom height always less than mullion
 Advance installation only in flat parts
 Cutting does not allow for expansion



Reference point for mullion frame axis

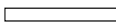
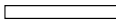
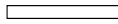
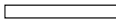
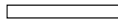


Applications

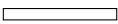
Fixed architectural façade 'trame' aspect horizontal inward corner 0° to 10° max

PROFILES

Tolerances of sections = 0.5 mm

Ref.	Designation	Quantity	Sections		Cutting
			on H	on L	
	Mullion according to inertia	according to trames			H according to trames
	Transom according to inertia	according to trames		0 to 10°	L according to formula
	Glazing bead according to infill	according to infill			H - 30 L according to formula
	Cover in transom	according to trames		0 to 10°	L according to formula
FM221	Lock	according to trames			H according to trames L according to formula

SEALING PROFILES

Ref.	Designation	Quantity	Sections		Cutting
			on H	on L	
6906	Exterior glazing gasket	2L + 2H			
JM012	Gasket for FM032 or FM290	see glazing bead			
JM089	Reinforced thermal separator gasket	L			L according to frame
JM095	Horizontal frame mullion gasket	H			H - 48
	Interior glazing gasket according to table	2L + 2H			

ACCESSORIES

Ref.	Designation	Quantity
CM188	Horizontal trame sealing plug	1 per connector
CM190	Glazing shim support	2 per transom
CM196	Presser	see table
EM143	Pop rivet	1 per cover
VM035	Lock fixing screw	5/ml on L
Option		
CM027	Side plate for FM237	1 in end of cover
CM628	Splice plate for FM237	according to trames
Advance installation assembly		
CM014	Connector plug	2 per transom
Profile FM093 to cut according to angle	Connector	2 per transom
VE101	Connector fixing screw	8 per transom

TOOLS

Ref.	Designation
OM023	Pair of gasket scissors
OM042	Roller for interior glazing gasket
OM118	Cover lock machining tool
W150	Black butyl rubber base mastic

Advance installation assembly

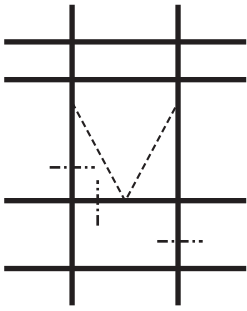
Ref.	Designation
OM004	Drill jig advance installation transom
OM006	Drill jig advance installation mullion

Glazing cutting
according to formula

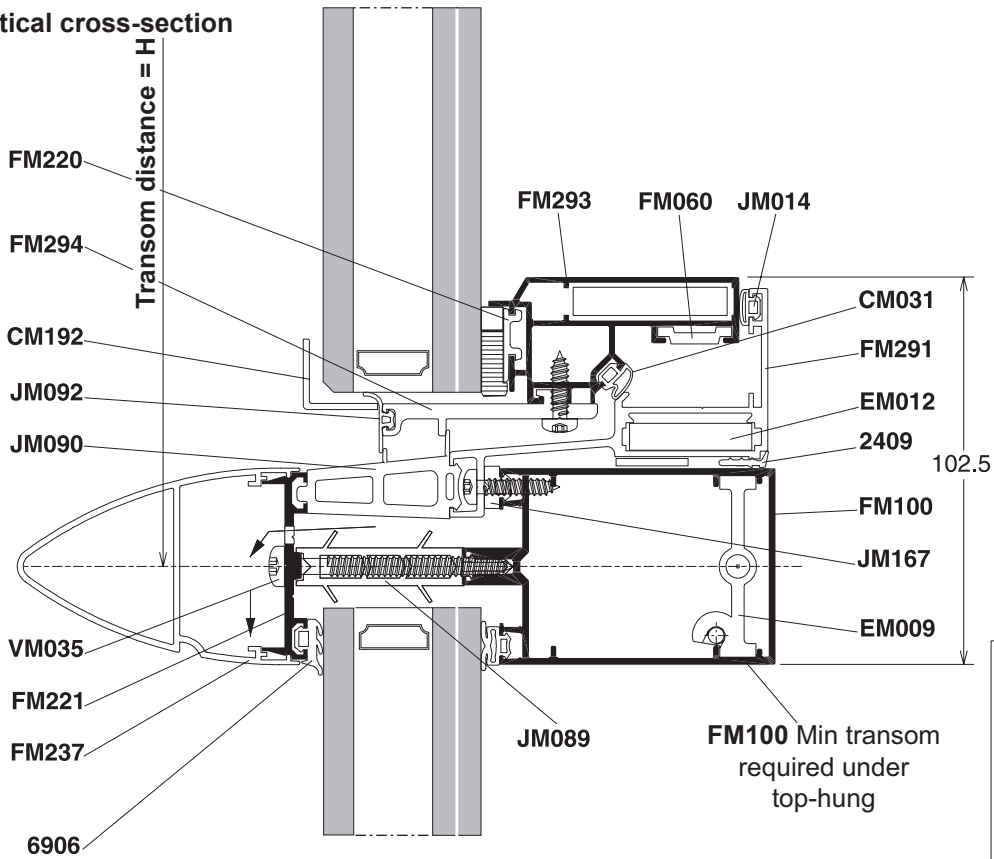
Applications

Top-hung horizontal 'trame' aspect

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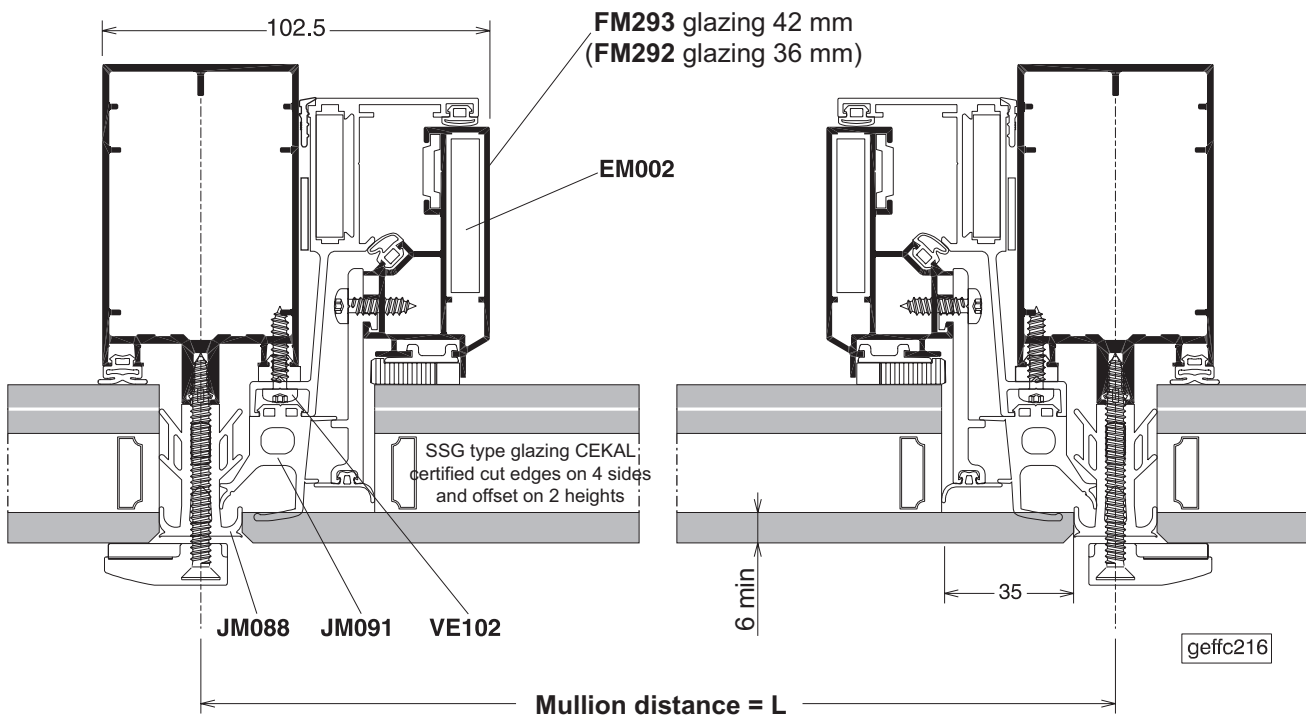


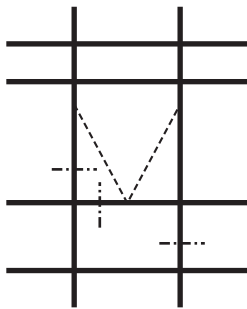
Vertical cross-section



GLAZING DIMENSIONS
 Height = H - 92
 Width = L - 23
 (Exterior glazing)
 Width = L - 92
 (Interior glazing)

Horizontal cross-section





Applications

Top-hung horizontal 'trame' aspect

PROFILES

Tolerances of sections = 0.5 mm

Ref.	Designation	Quantity	Sections		Cutting
			on H	on L	
FM060	Cremona rod	1			see page hardware
FM220	Glue stick	2L + 2H			H - 97.5 L - 97.5
FM291	Frame	2L + 2H			H - 26 L - 26
FM292	Glazing sash 36 mm	2L + 2H			H - 86 L - 86
FM293	Glazing sash 42 mm	2L + 2H			H - 86 L - 86
FM294	PVC protection profile	2L + 2H			H - 69 L - 326

SEALING PROFILES

Ref.	Designation	Quantity	Sections		Cutting
			on H	on L	
2409	Frame/framework finish	2L + 2H			
CM031	Interior sealing sash/frame	1 (4 corners 1+1 ml)			
JM014	Frame rebate	2L + 2H			
JM090	Rebate blanking	2L + 2H			
JM091	Top-hung exterior gasket horizontal 'trame'	2H			
JM092	Sash exterior gasket	2L + 2H			
JM167	Structure frame sealing	2L + 2H			

ACCESSORIES

Ref.	Designation	Quantity
CM028	Glazing shim	2
CM192	Security part	1
EM002	Sash corner-cleat	4
EM012	Frame corner-cleat	4
VE031	Fixing screw for profile FM294	3/ml
VE102	Fixing screw FM016	4/ml

TOOLS

Ref.	Designation
OM023	Pair of gasket scissors
OM065	Drill jig for machining strike/locking wedge frame
OM119	Machining pneumatic tool rod + tipping
OM135	Drill jig for machining frame for limiter
OM137	Drill jig for machining sash for limiter
OM139	Drill jig for machining Security parts

Glazing cutting

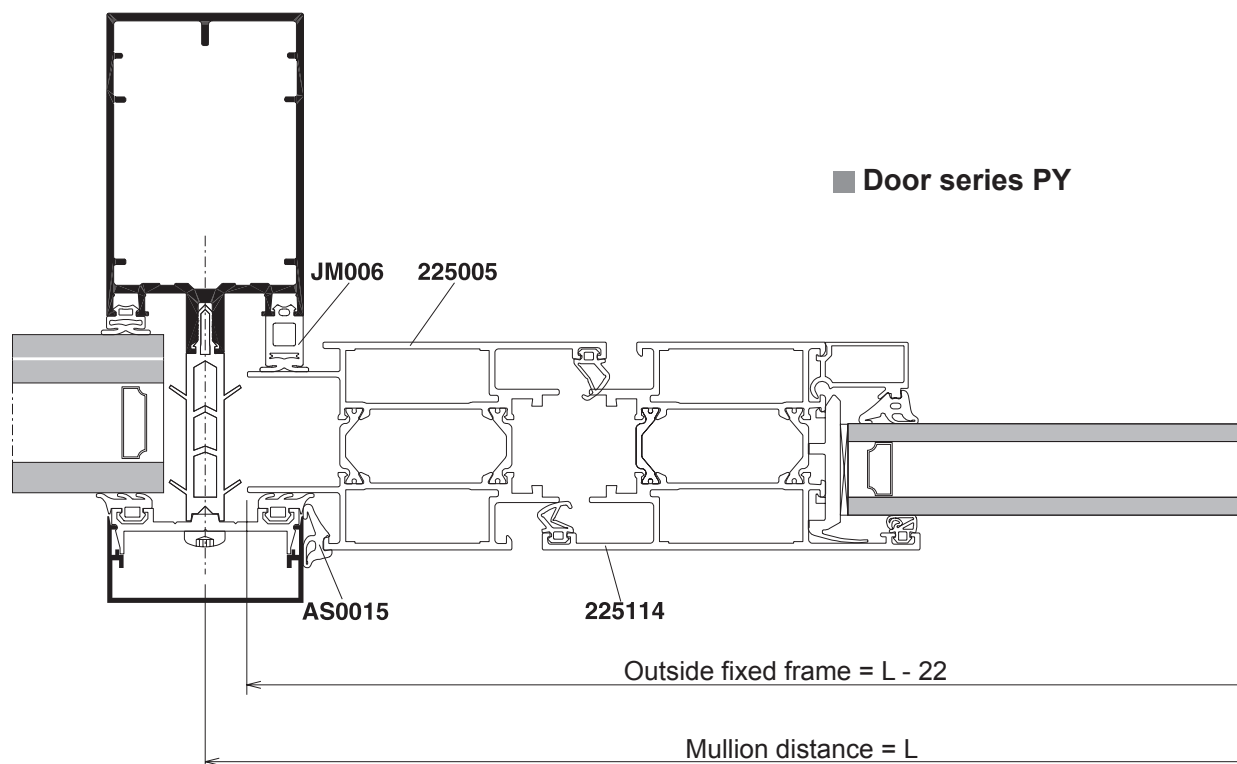
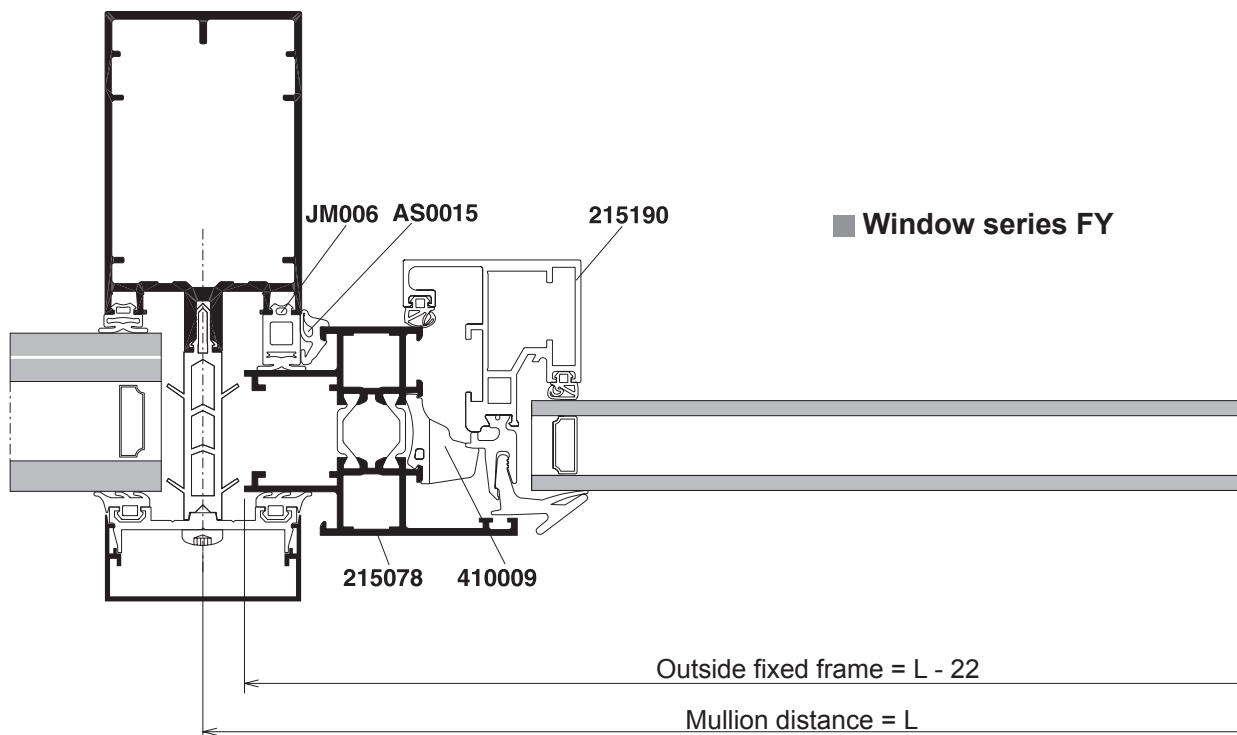
H - 92

Interior glazing L - 92

Exterior Glazing L - 23

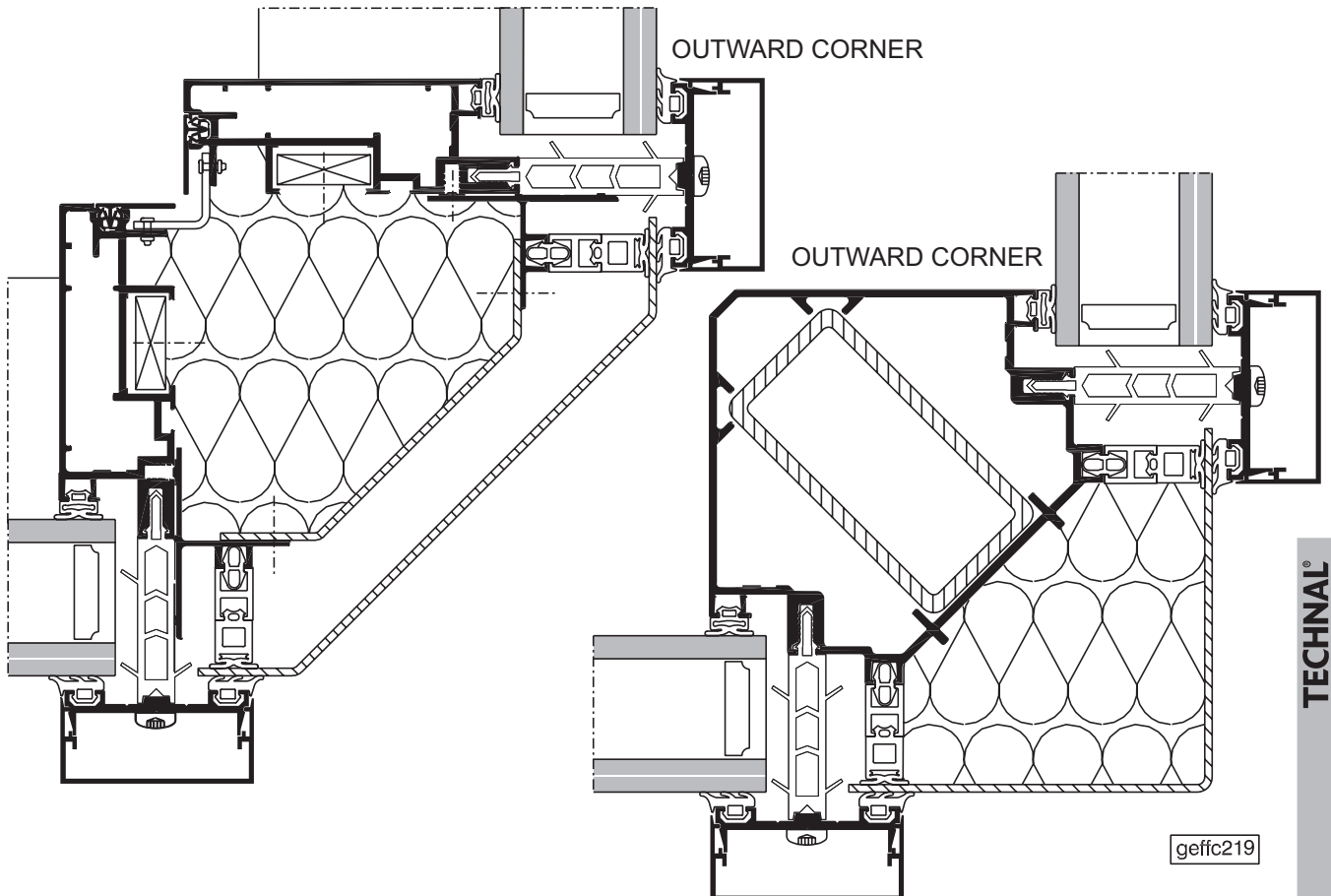
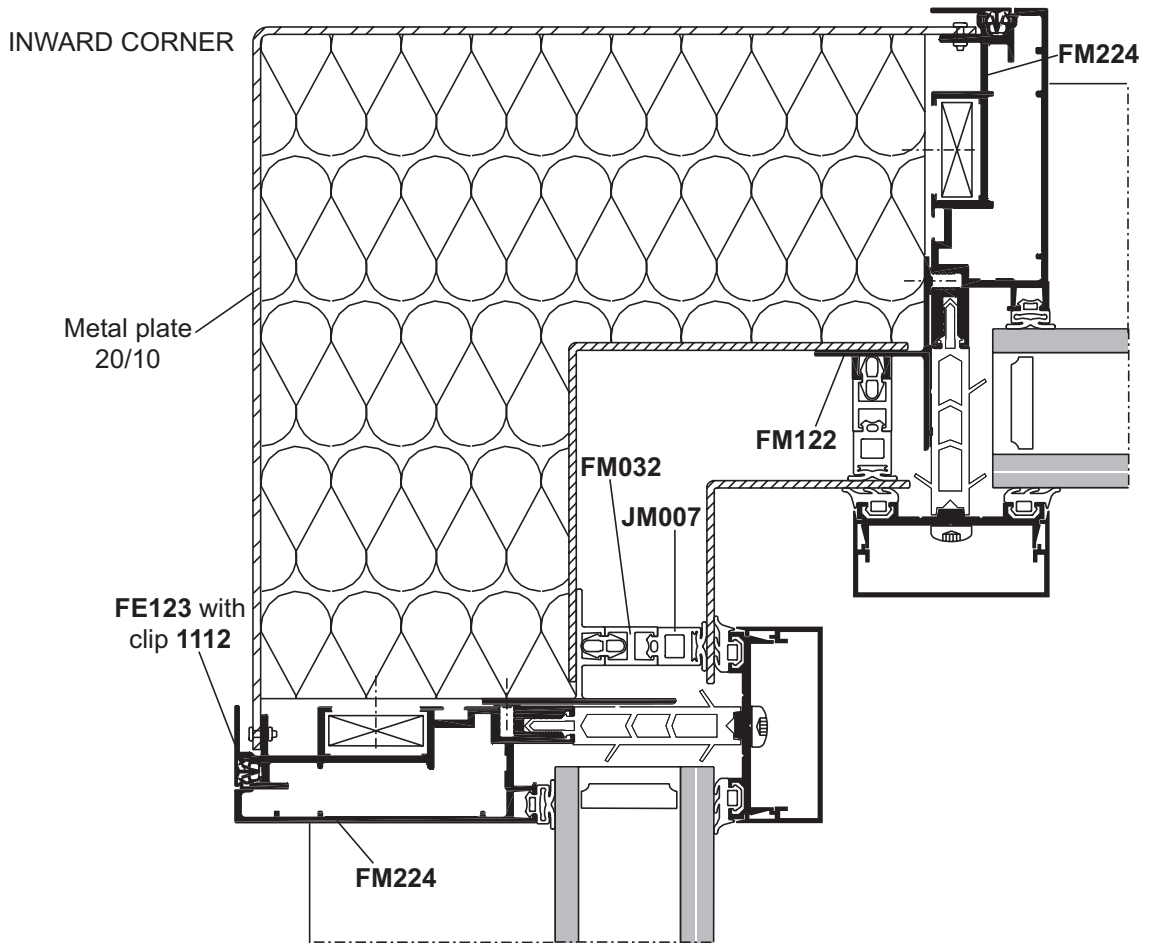
Options

Added window and door



Options

Inward and outward corner 90°



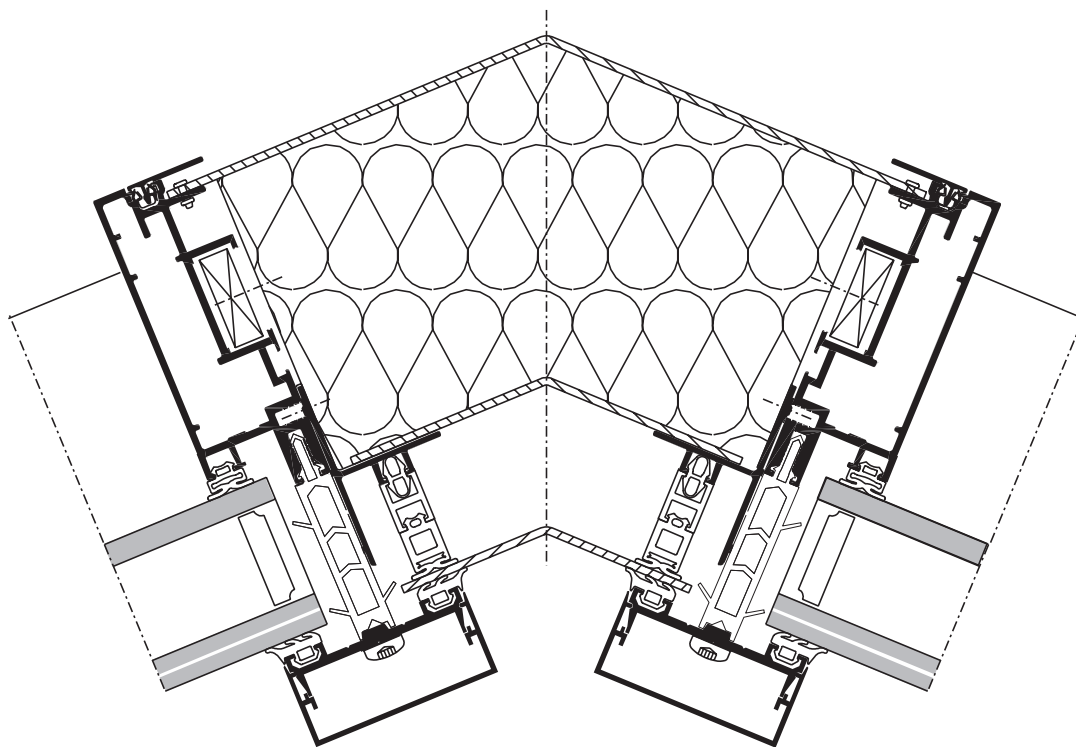
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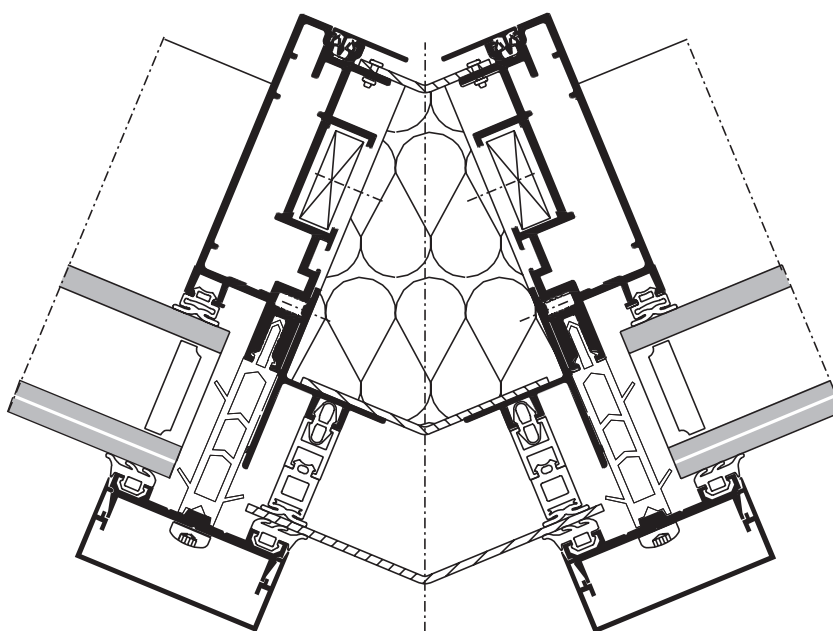
Options

Inward and outward corner 135°

INWARD CORNER



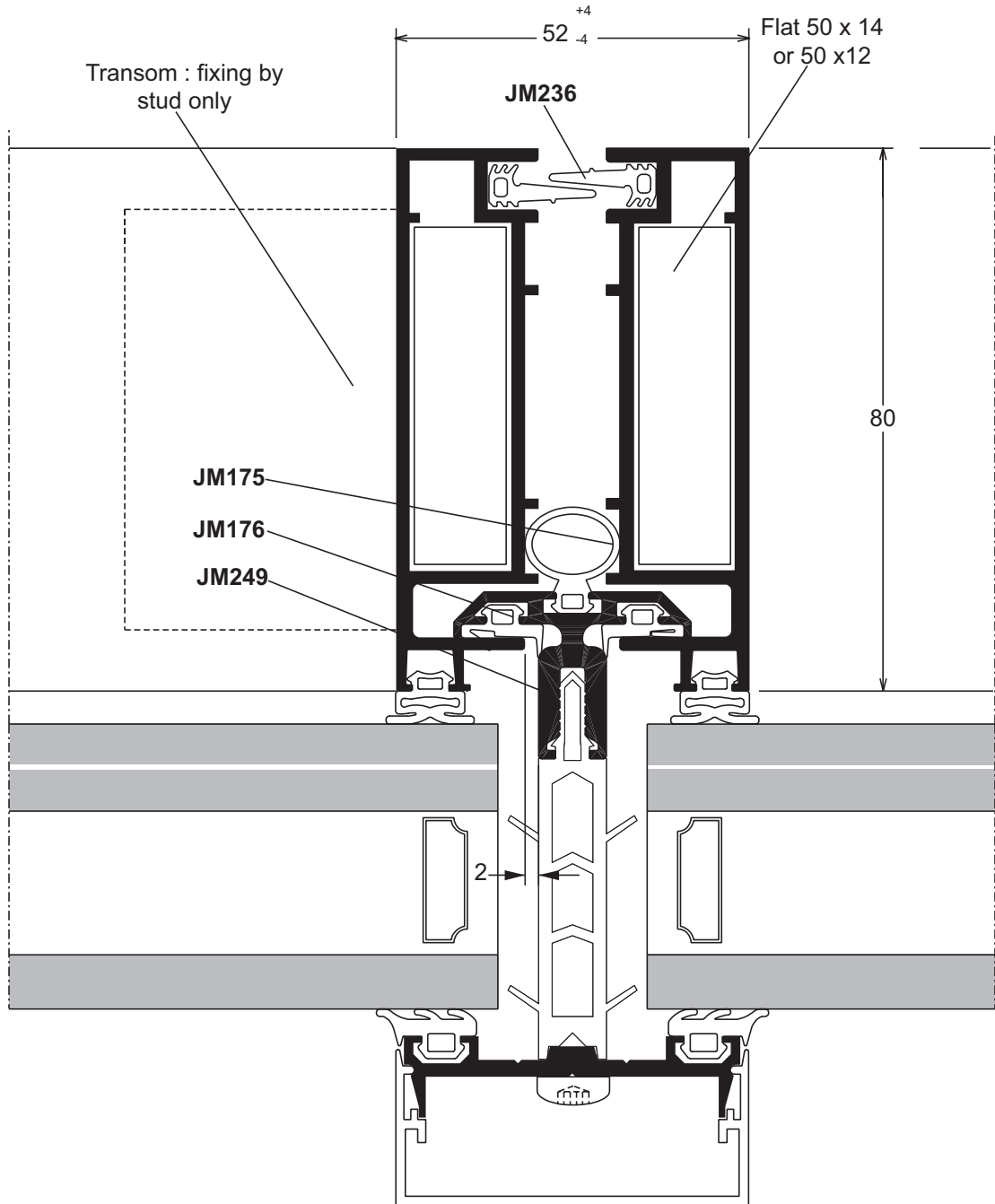
OUTWARD CORNER



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Options

Expansion mullion



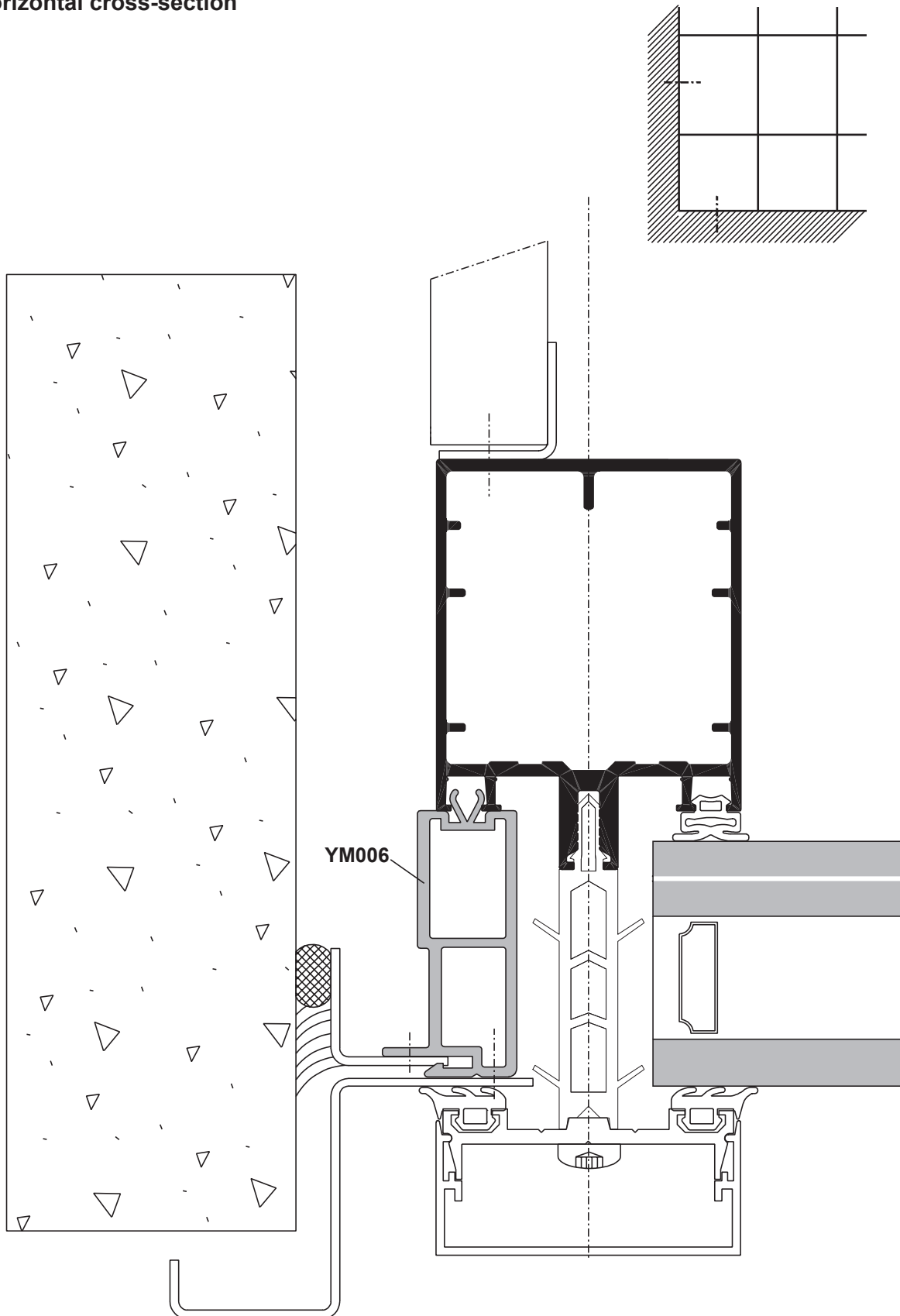
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Installation situations

Masonry connector grid aspect

TECHNAL®

■ horizontal cross-section

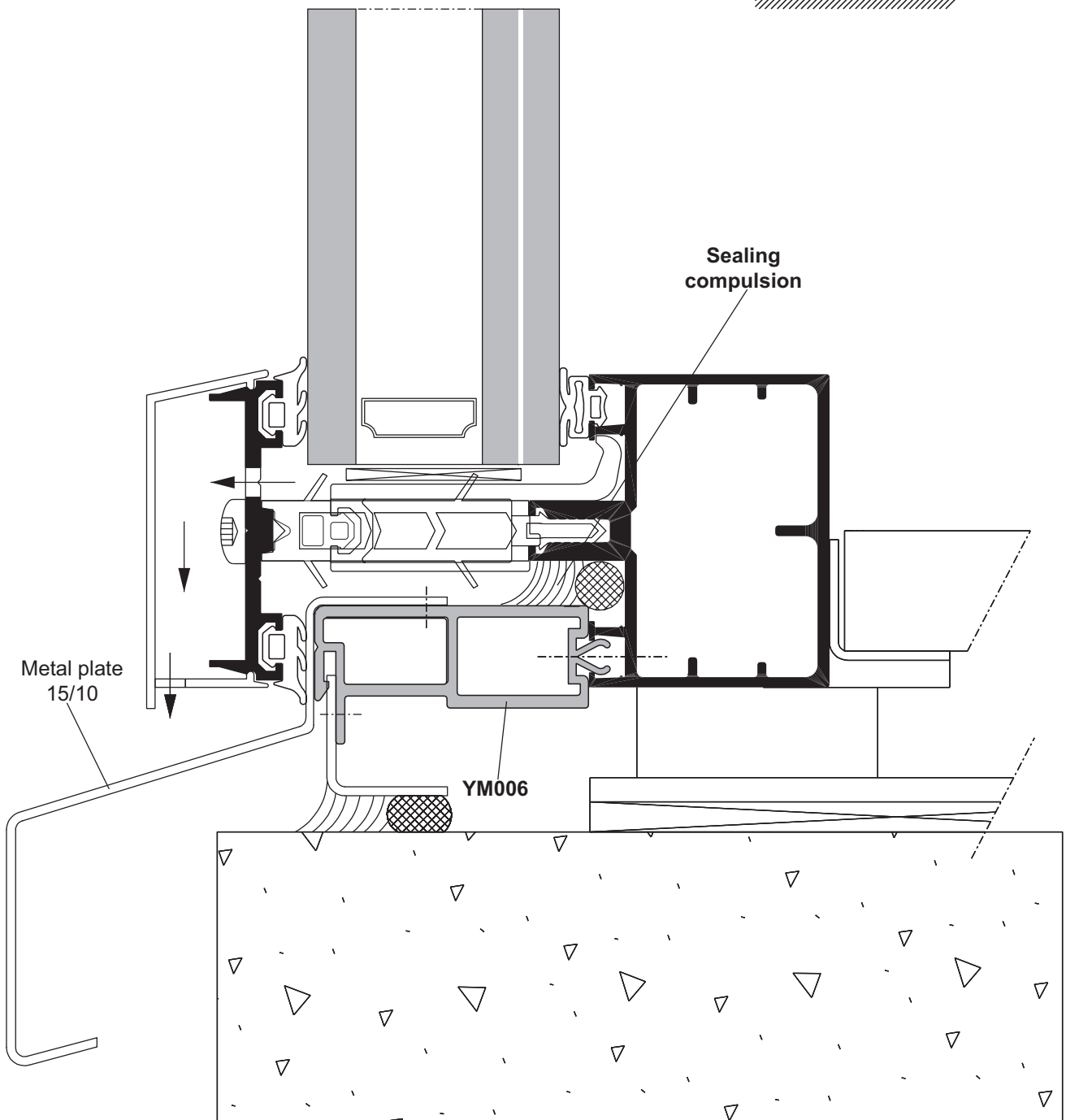
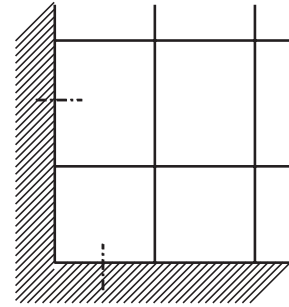


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Installation situations

Masonry connector grid aspect

■ vertical cross-section



geffc224

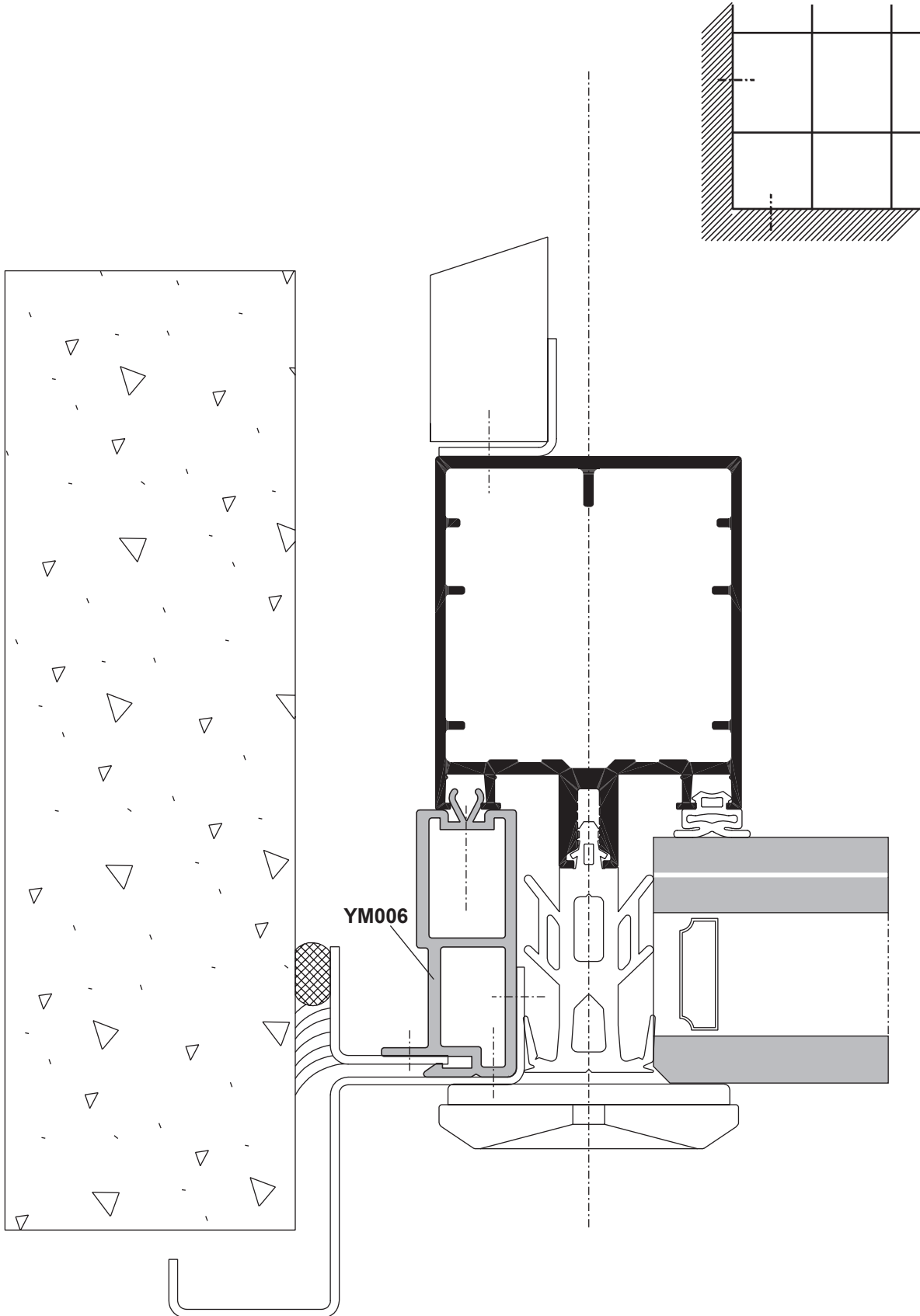
TECHNAL®

Installation situations

Masonry connector horizontal 'trame' aspect

TECHNAL®

■ horizontal cross-section

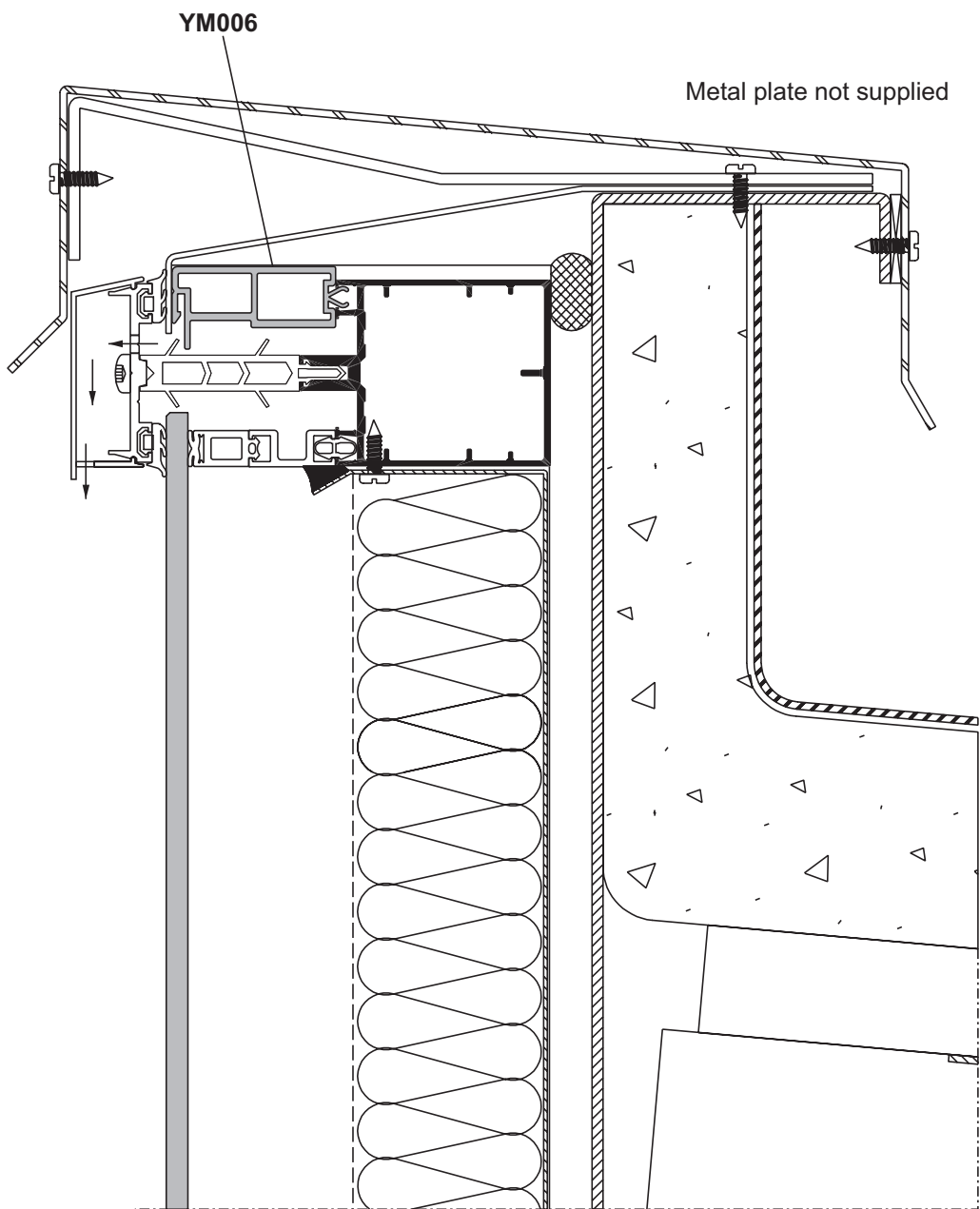
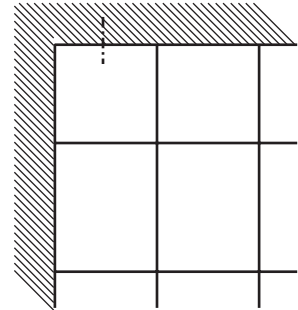


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Installation situations

Masonry connector horizontal 'trame' aspect

■ vertical cross-section

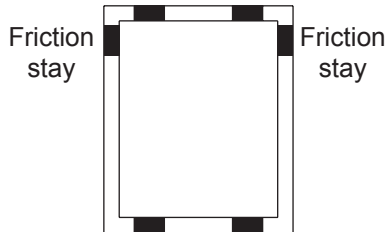
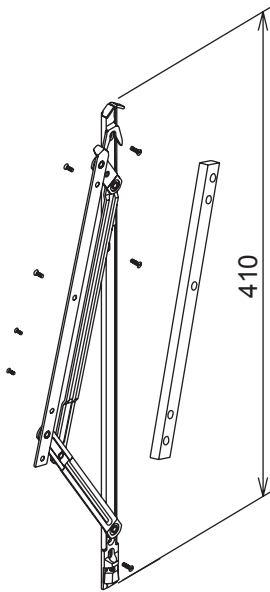
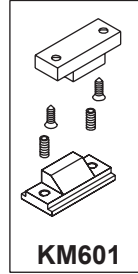
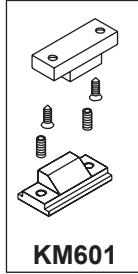
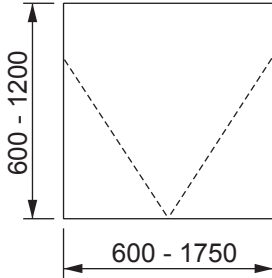


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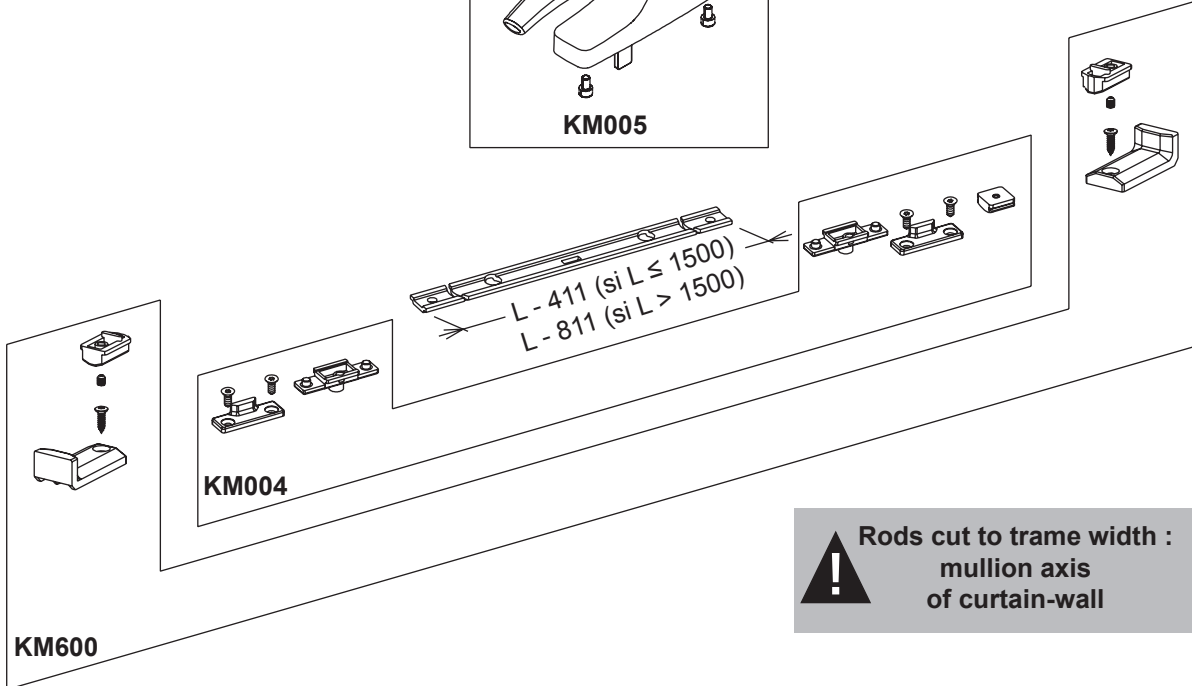
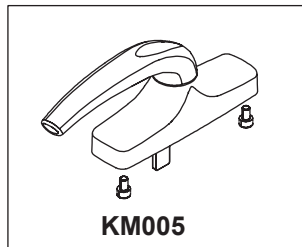
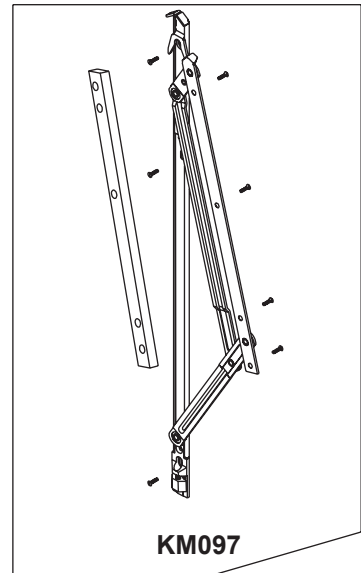
Summary of locks

Top-hung hardware installation
vent width 600 - 1750
vent height 600 - 1200

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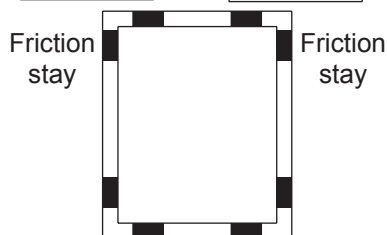
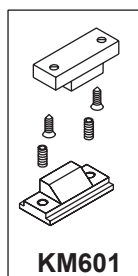
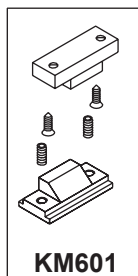
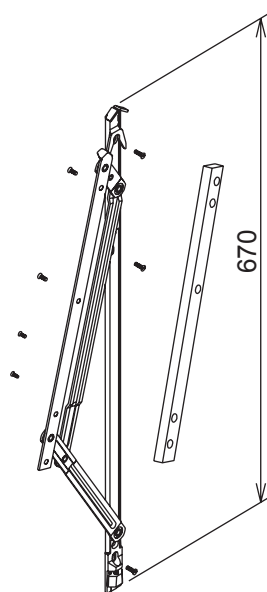
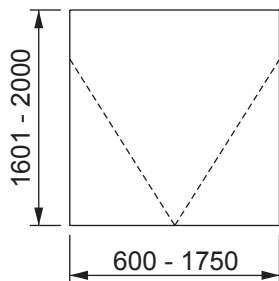
- KM004** : Top-hung locking mechanism
- KM005** : Top-hung espagnolette bolt
- KM097** : Small sizes stainless friction stay if $h_o \leq 1200$
- KM601** : 2 MX top-hung reinforced
- KM600** : Spacer



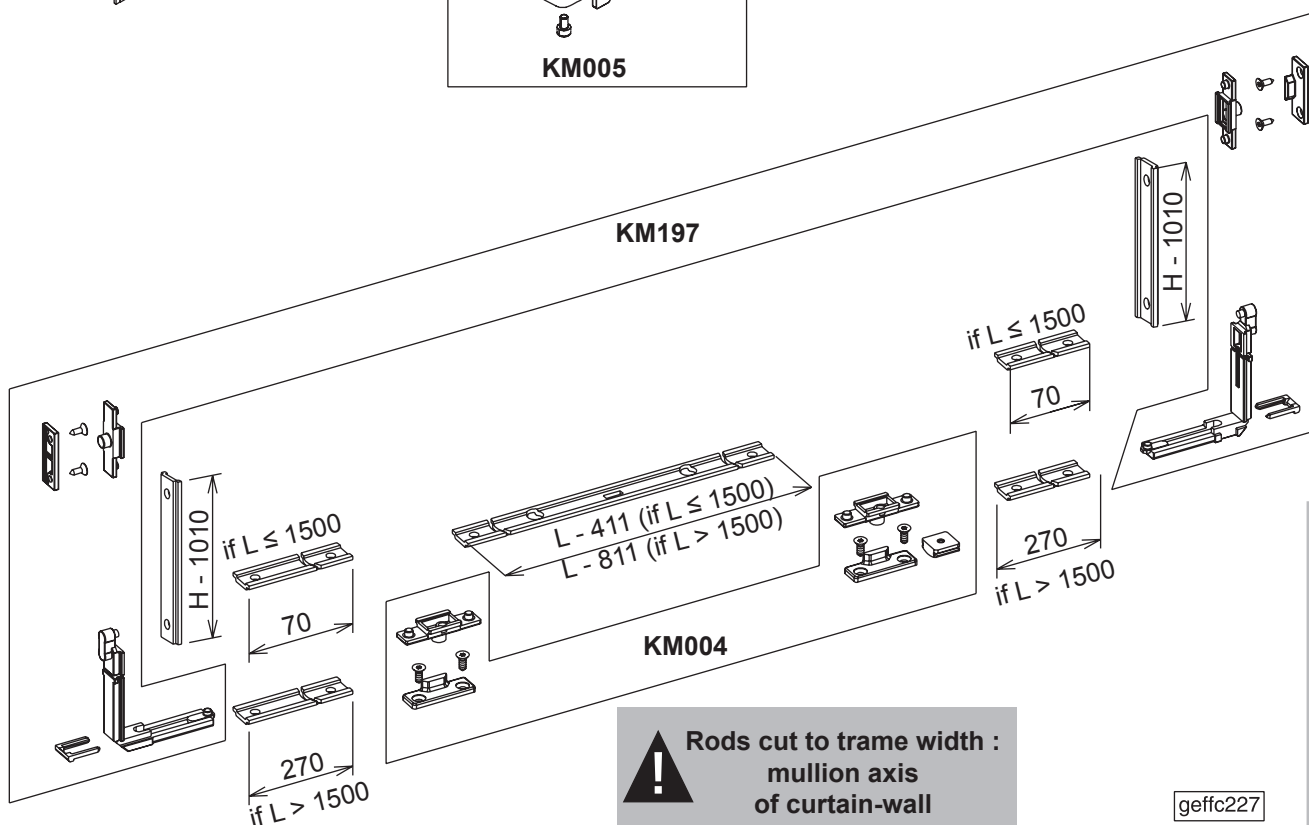
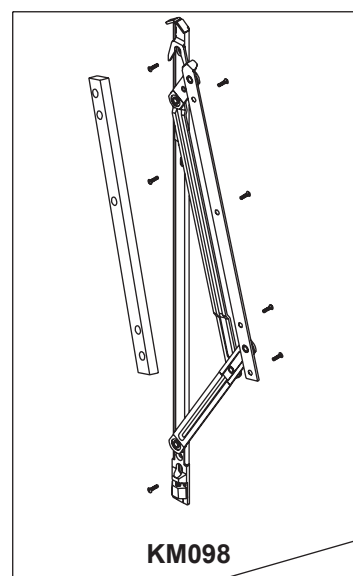
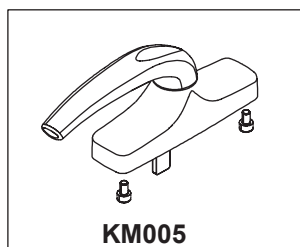
! Rods cut to trame width :
 mullion axis
 of curtain-wall

Summary of locks

Top-hung hardware installation vent width 600 - 1750 vent height 1601 - 2000



- KM004** : Top-hung locking mechanism
- KM005** : Top-hung espagnolette bolt
- KM098** : Stainless steel friction stay (large size)
- KM601** : 2 MX top-hung reinforced (1 if lo < 950)
- KM197** : Lock point ho > 1600



! Rods cut to trame width :
mullion axis
of curtain-wall

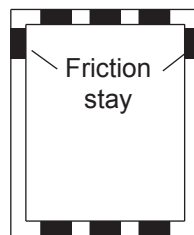
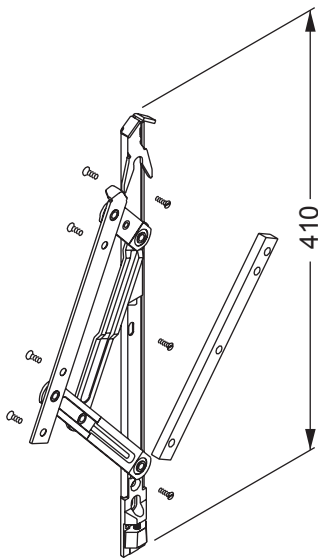
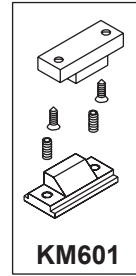
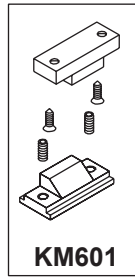
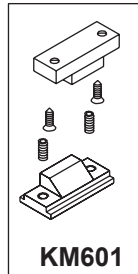
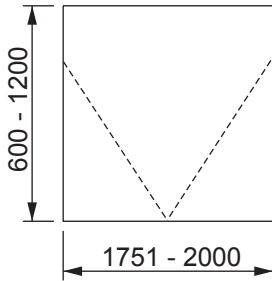
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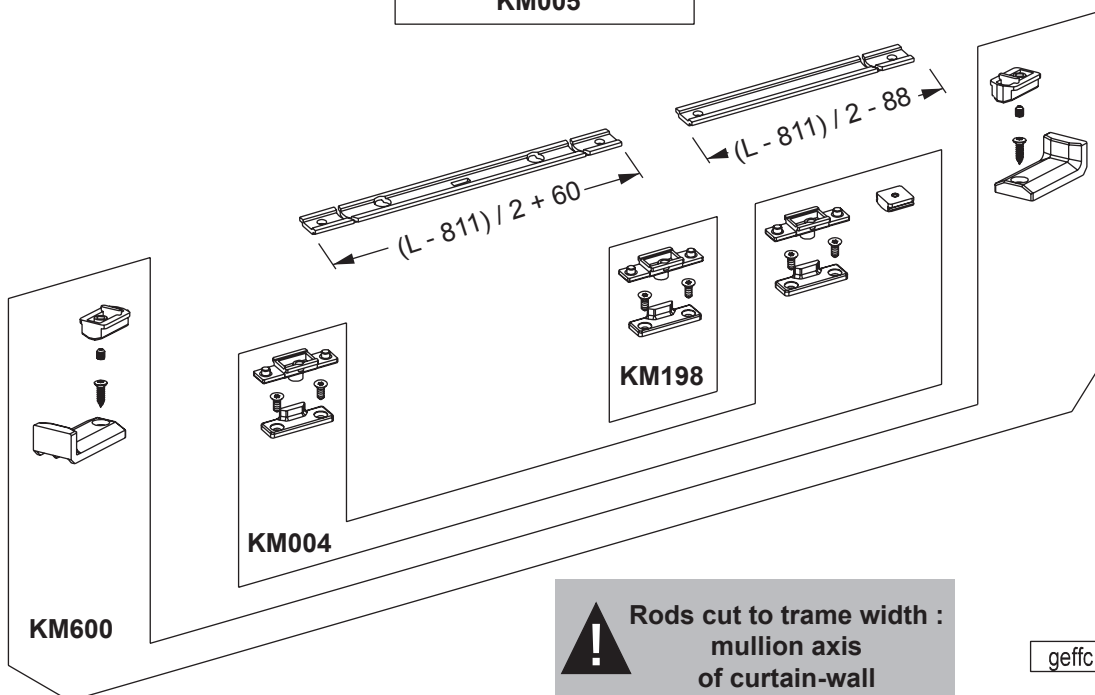
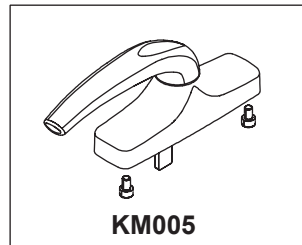
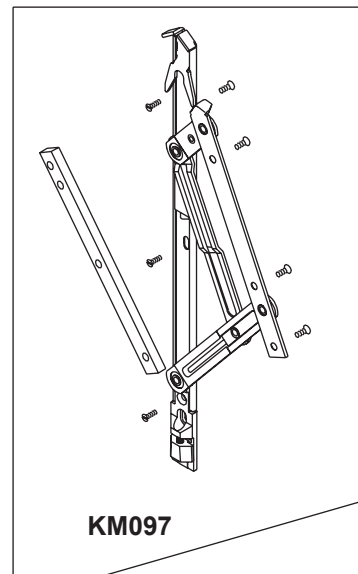
Summary of locks

Top-hung hardware installation
vent width 1751 - 2000
vent height 600 - 1200

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- KM004** : Top-hung locking mechanism
- KM005** : Top-hung espagnolette bolt
- KM097** : Small sizes stainless friction stay
- KM601** : 3 MX top-hung reinforced for lo > 1750
- KM600** : Spacer
- KM198** : Additional lock point for lo > 1750

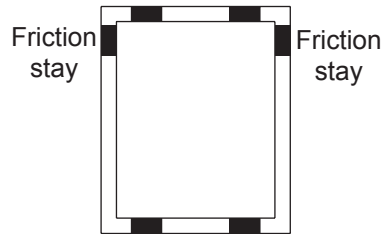
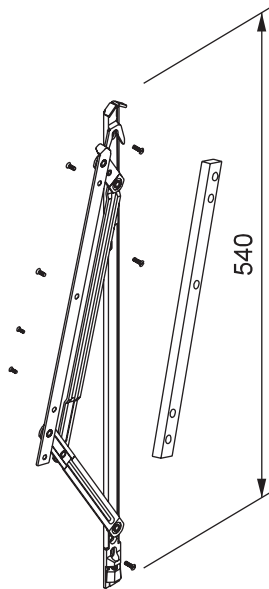
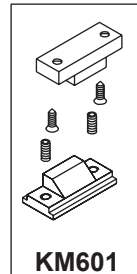
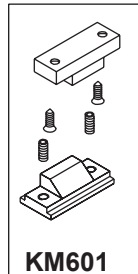
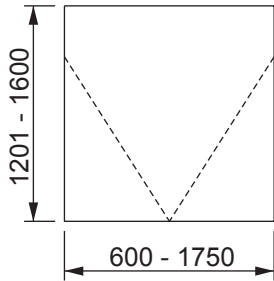


! Rods cut to trame width :
 mullion axis
 of curtain-wall

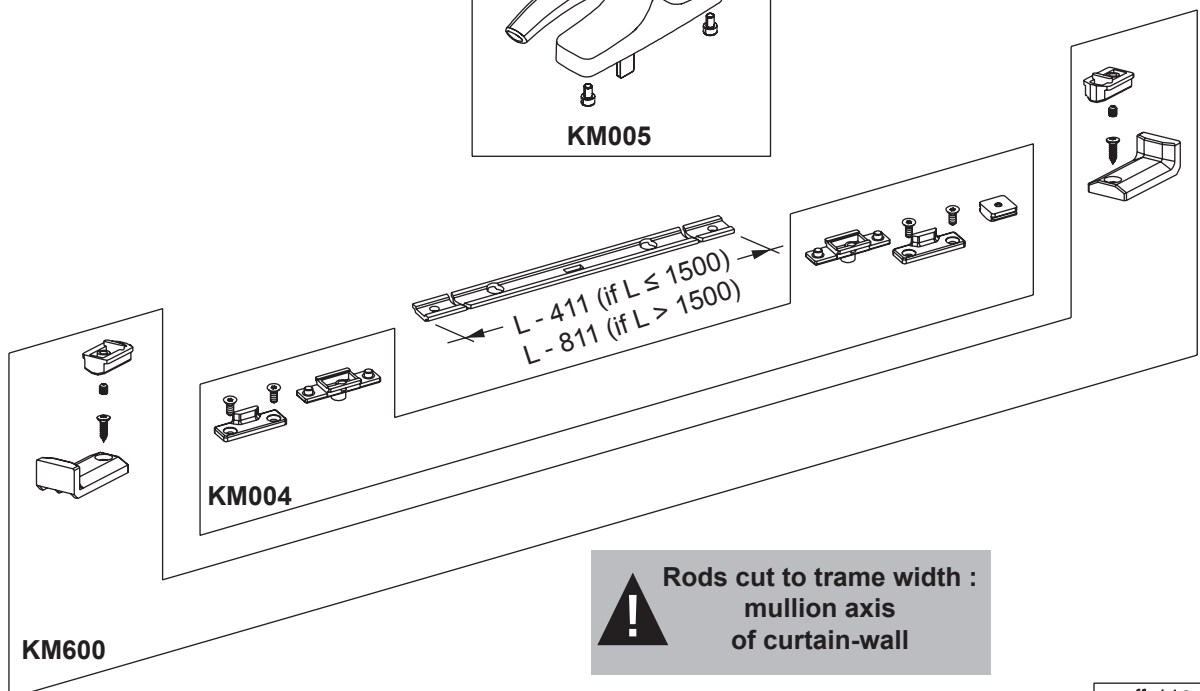
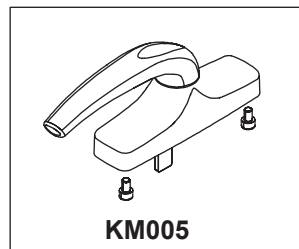
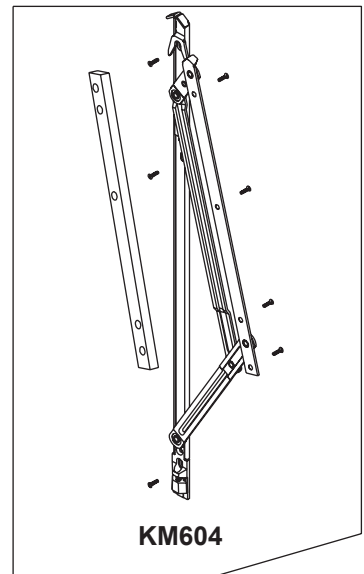
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Summary of locks

Top-hung hardware installation vent width 600 - 1750 vent height 1201 - 1600



- KM004** : Top-hung locking mechanism
- KM005** : Top-hung espagnolette bolt
- KM604** : Medium sizes stainless friction stay
- KM601** : 2 MX top-hung reinforced (1 if lo < 950)
- KM600** : Spacer



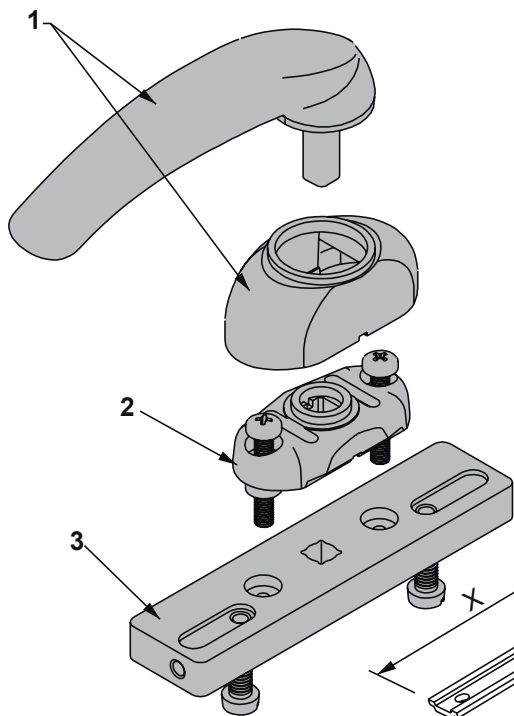
**Rods cut to trame width :
mullion axis
of curtain-wall**

geffc146

Summary of locks

Top-hung embedded gearbox

! Rod dimensions are overall vent frame H and W

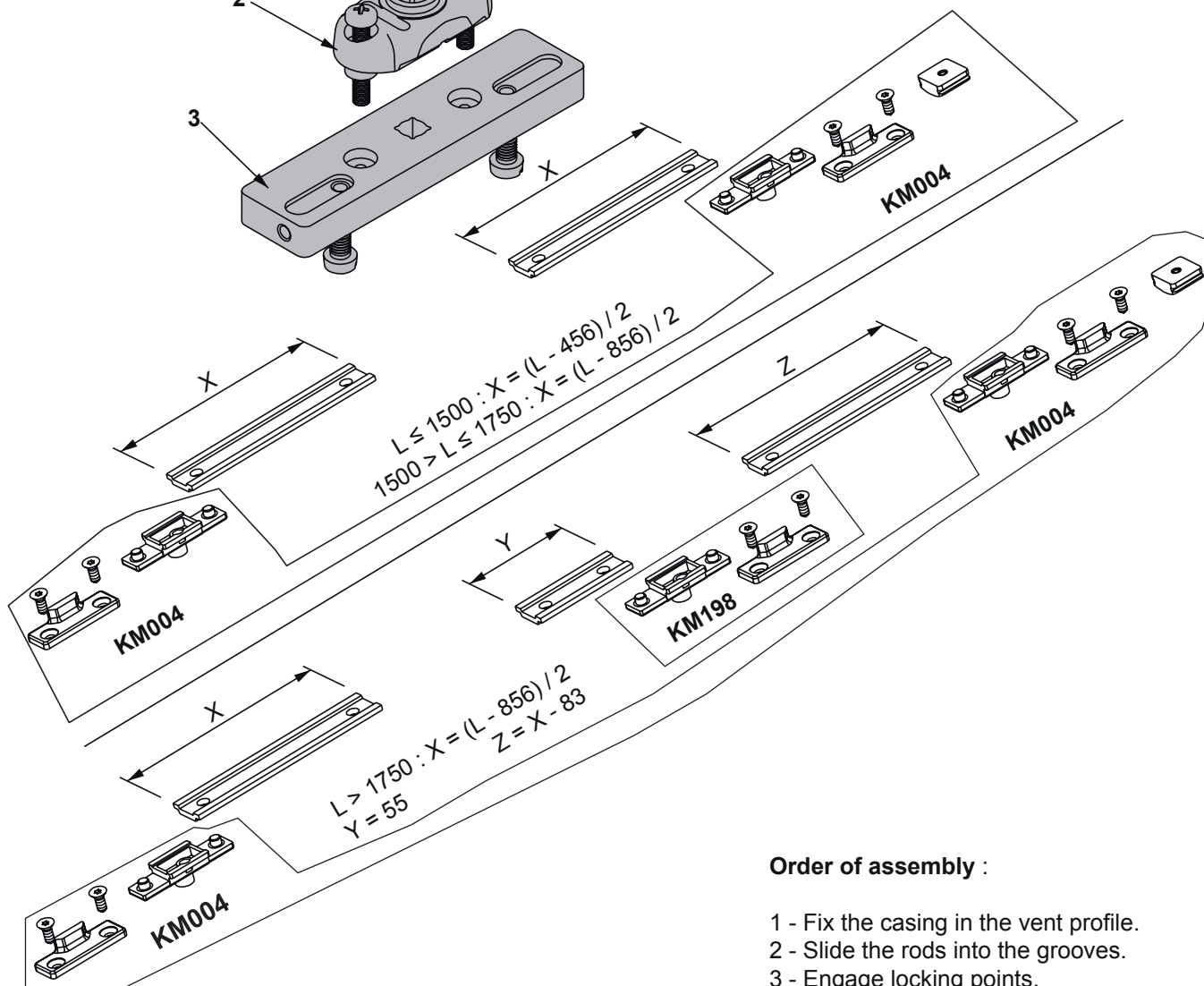


For older applications, the KM060 - KM061 and KM083 references replace the handle **KM005**

- 1 : KM060 : Handle + rosette
- 2 : KM061 : Fixation support
- 3 : KM083 : Top-hung embedded casing

Optional :

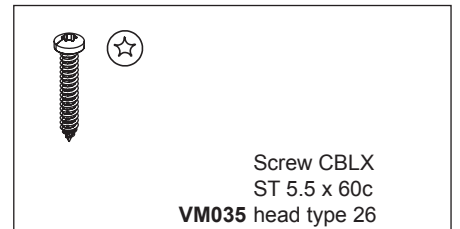
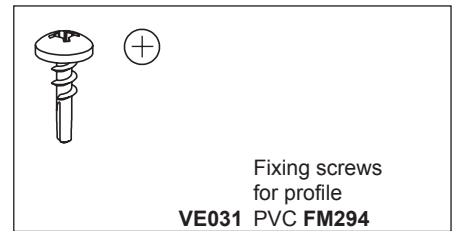
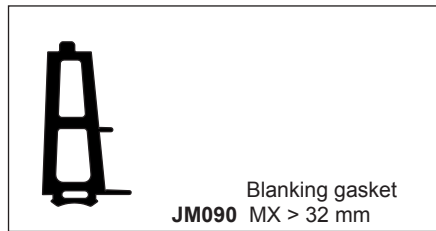
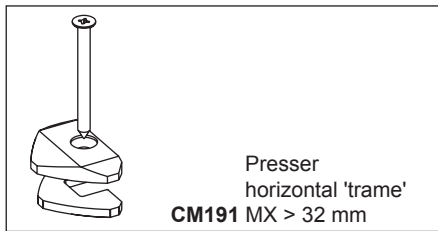
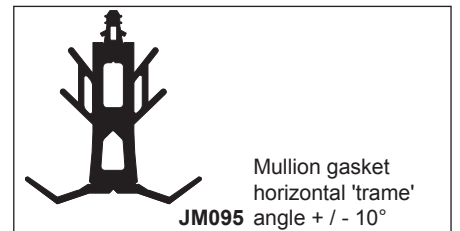
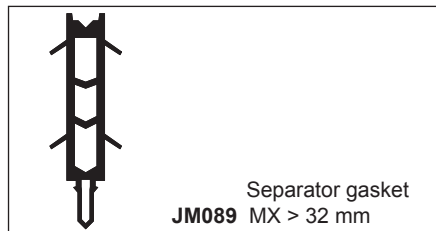
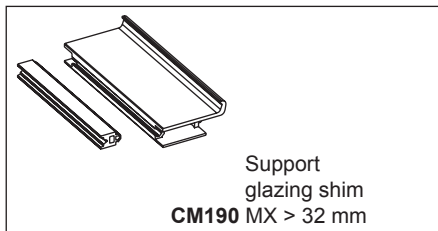
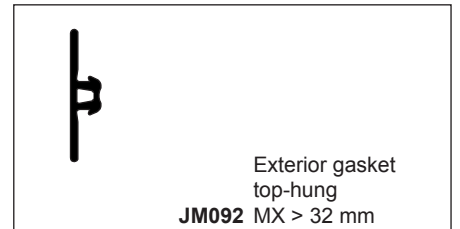
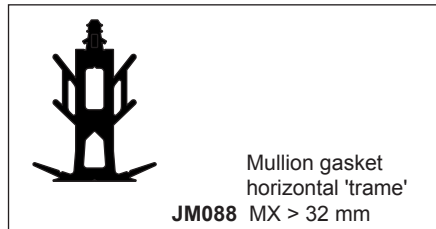
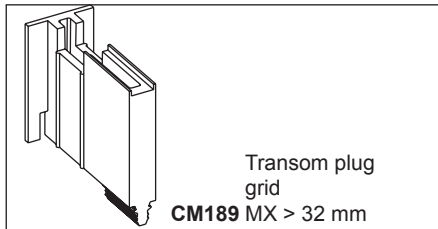
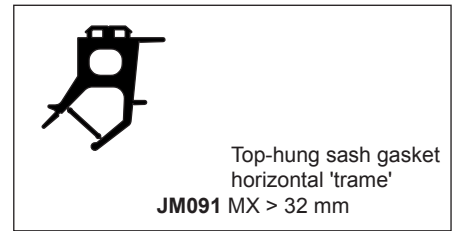
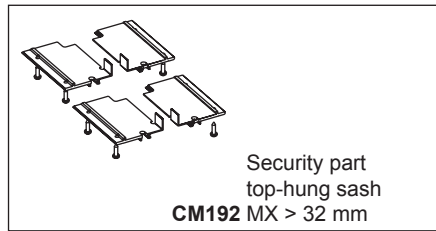
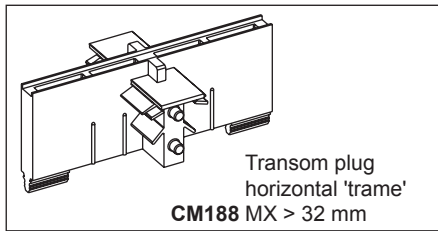
- KM062 : Rosette with square + CM080 : Handle for casement bolt or KM082 : Rosace



Order of assembly :

- 1 - Fix the casing in the vent profile.
- 2 - Slide the rods into the grooves.
- 3 - Engage locking points.
- 4 - Secure the rods the casing.
- 5 - Fix the base plate to the casing.
- 6 - Fix cover over the base plate.
- 7 - Mount the lever and lock into place.

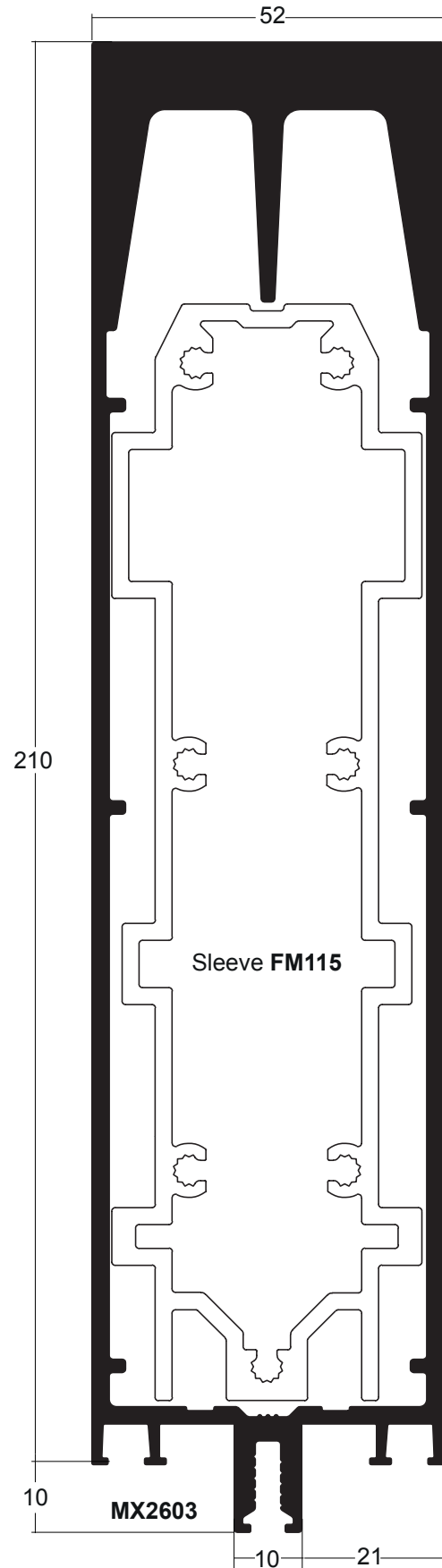
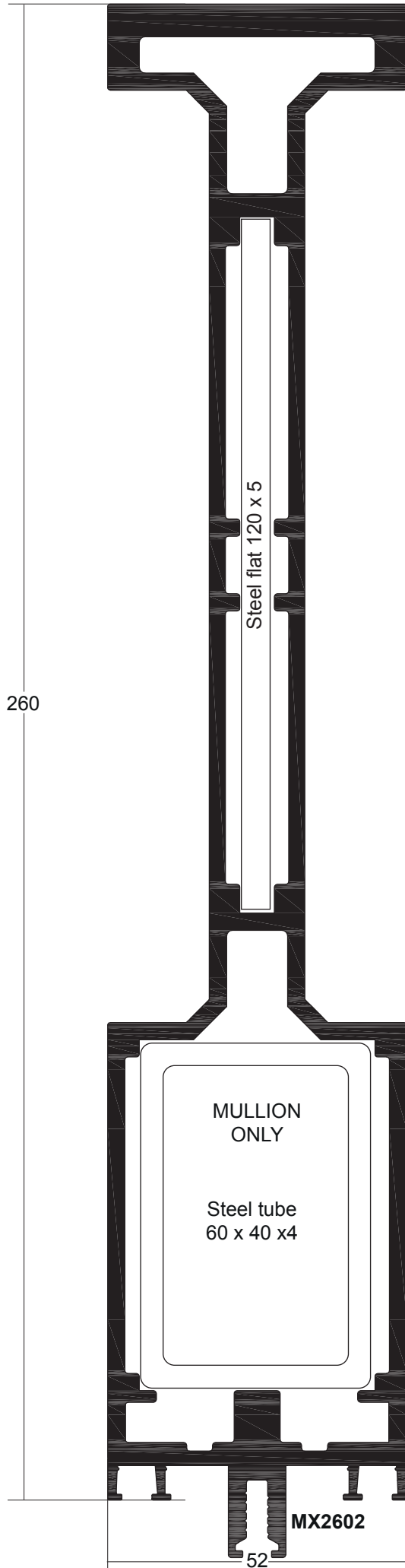
Summary of accessories and specific gaskets



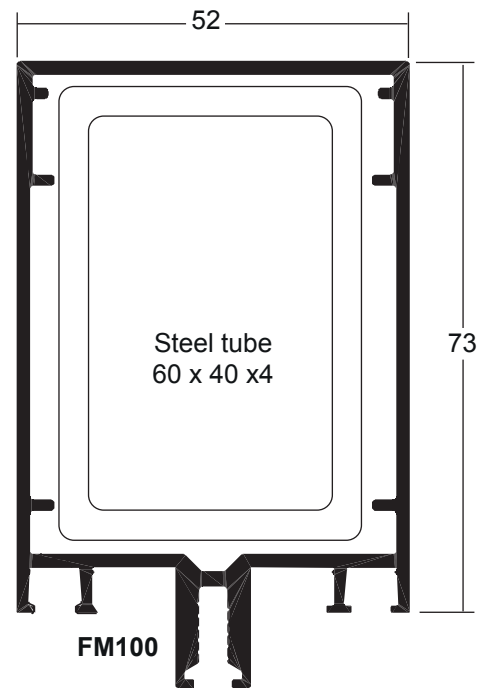
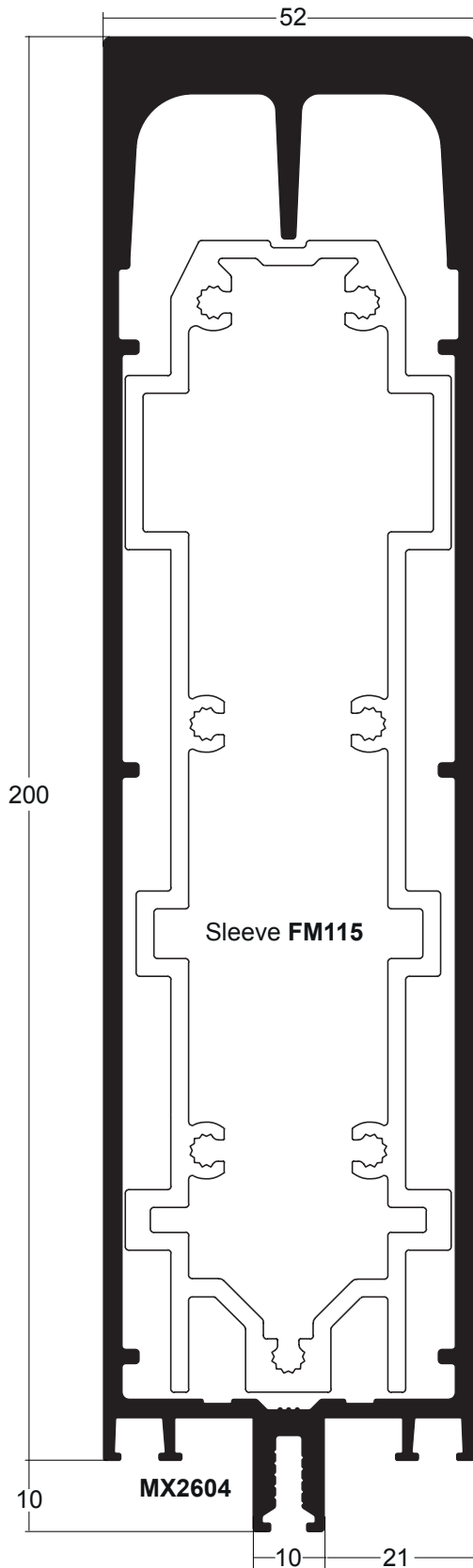
Additional tools



Summary of profiles

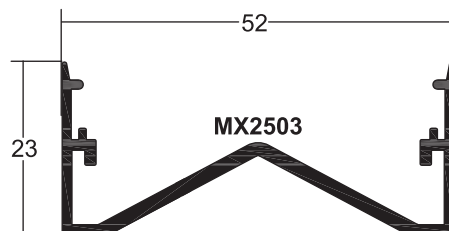
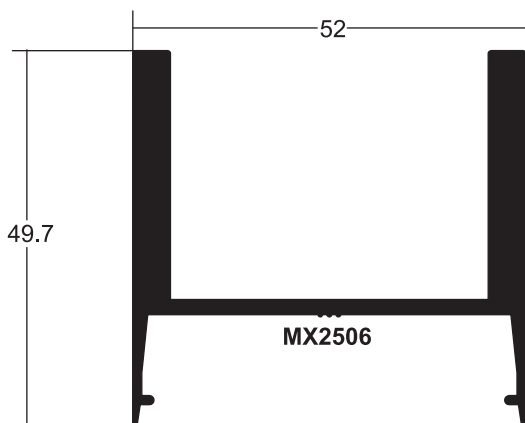
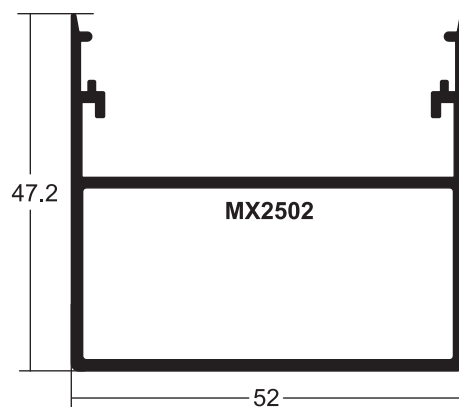
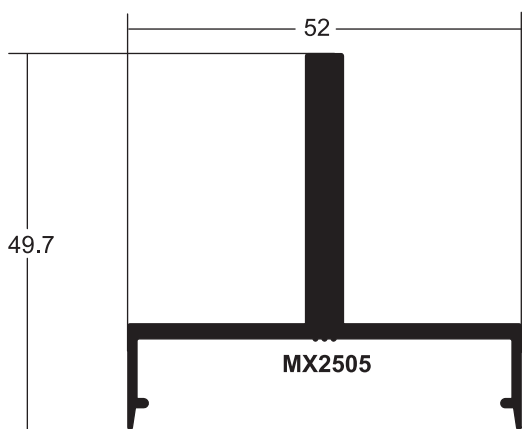
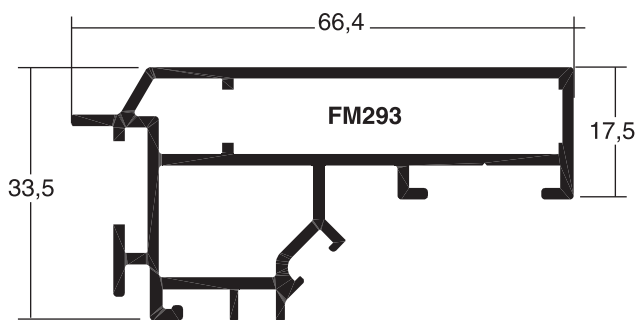
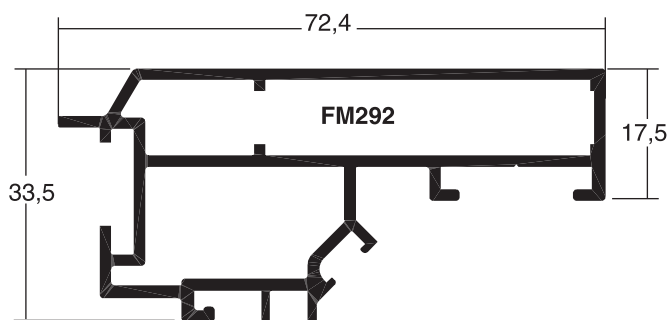
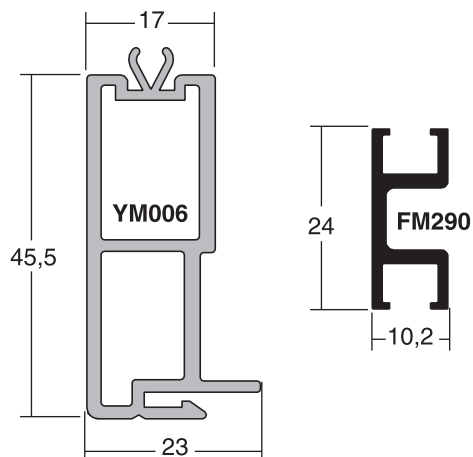
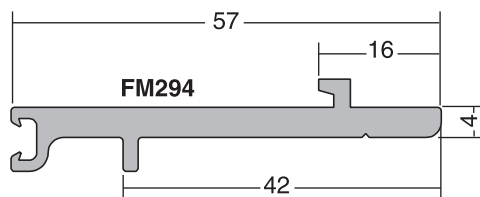
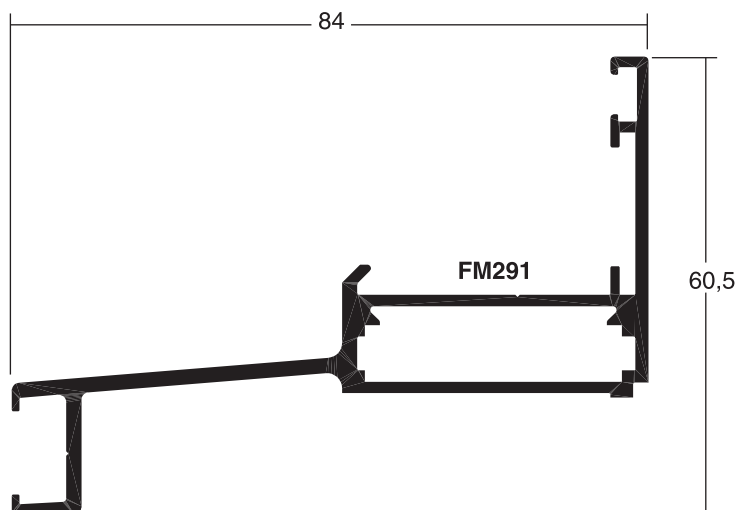


Summary of profiles



Summary of profiles

TECHNAL®

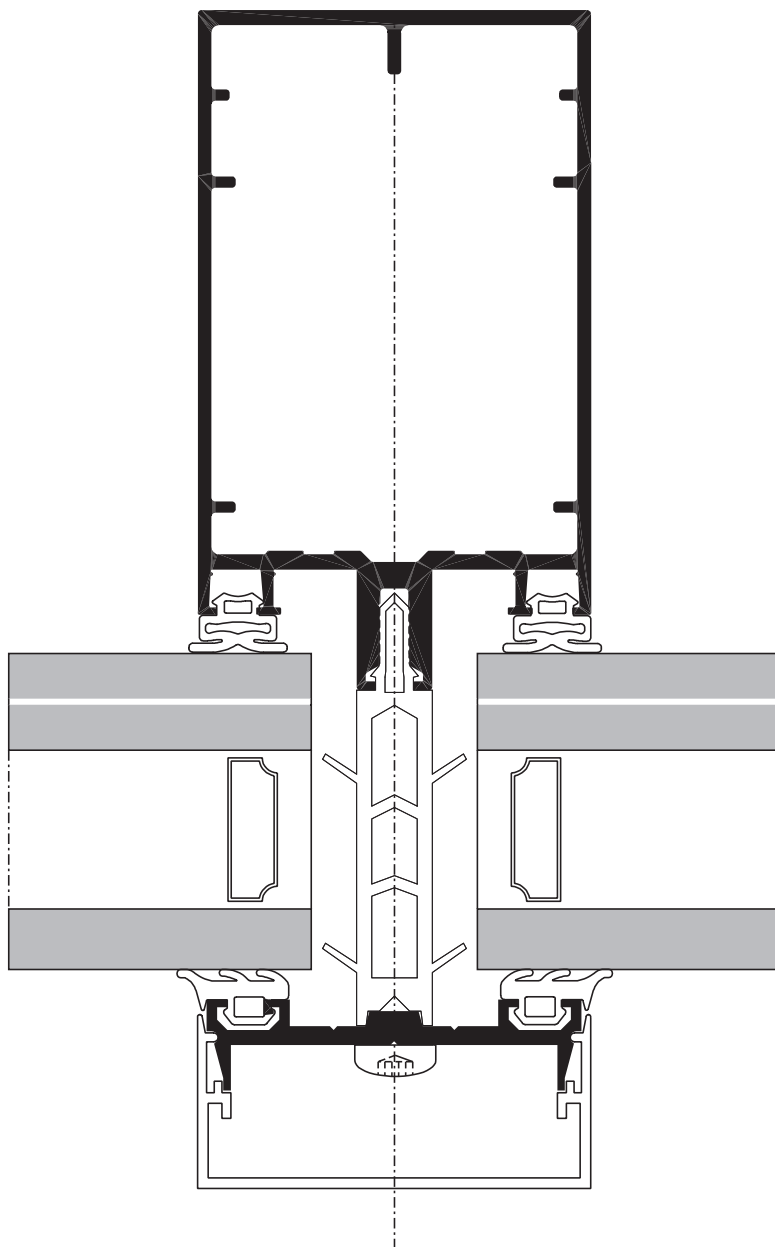


Nodes

Fixed grid aspect

TECHNAL®

■ horizontal cross-section

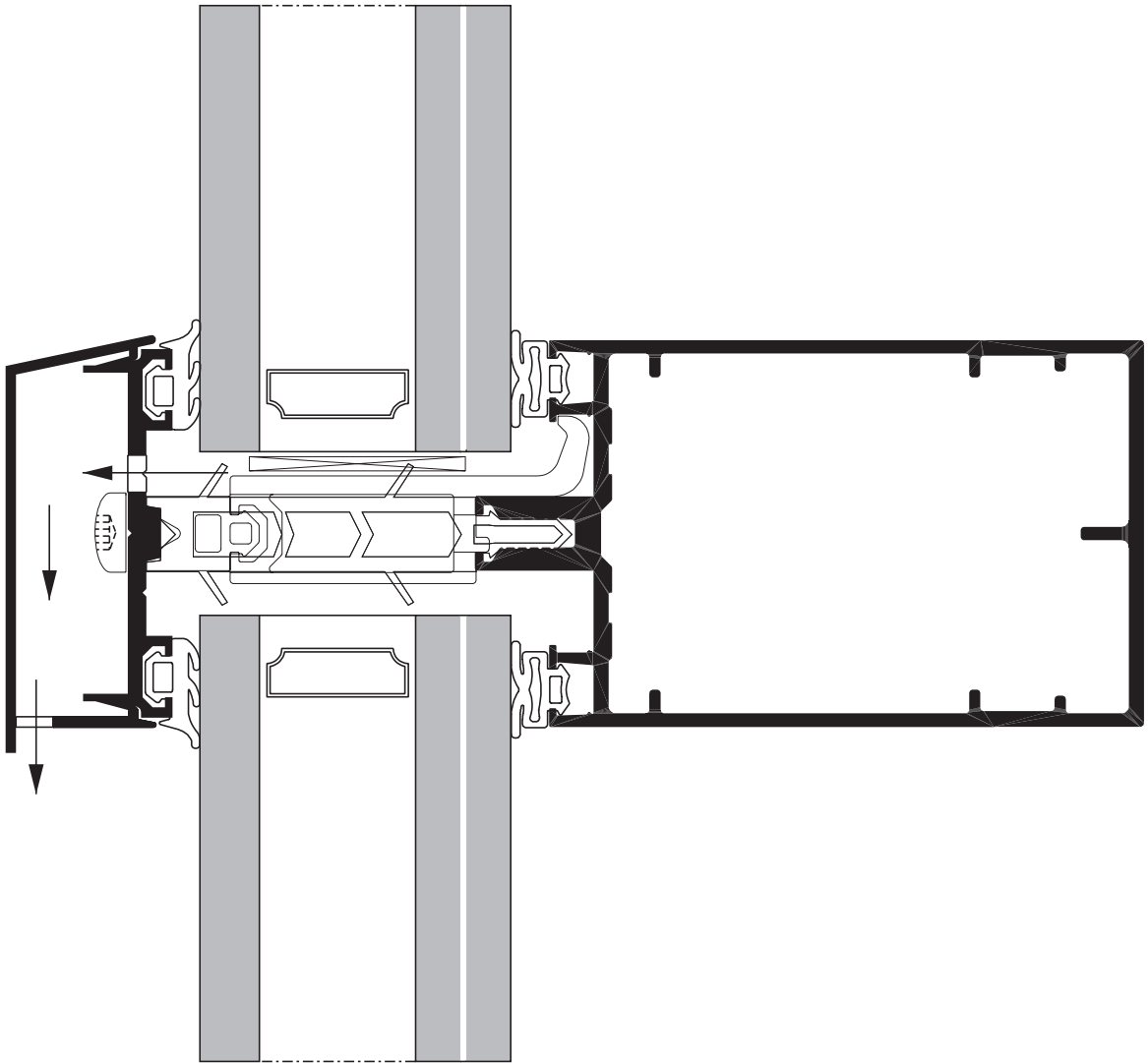


geffc228

Nodes

Fixed grid aspect

■ vertical cross-section



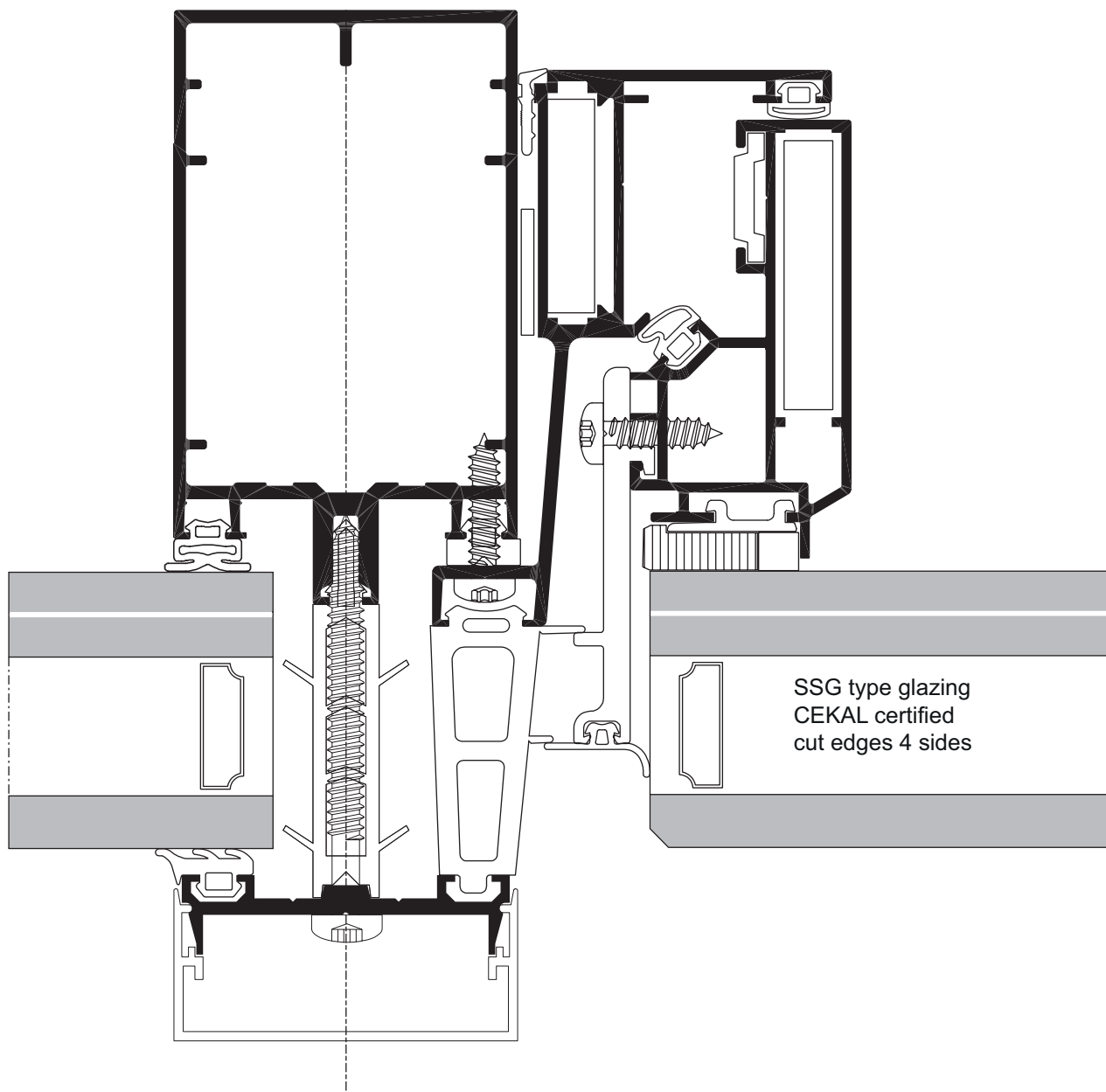
geffc229

TECHNAL®

Nodes

Top-hung grid aspect

■ horizontal cross-section

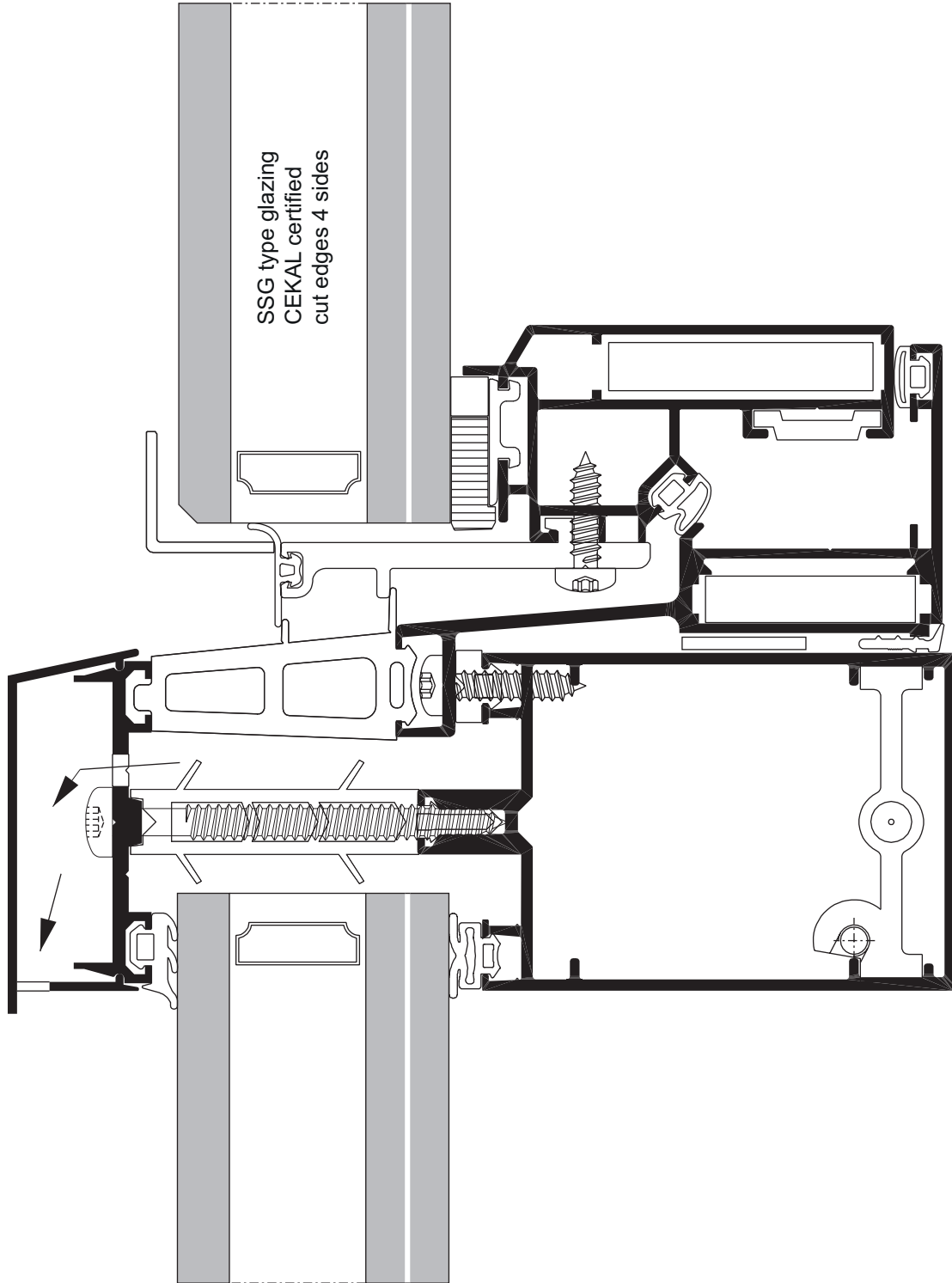


geffc230

Nodes

Top-hung grid aspect

■ vertical cross-section

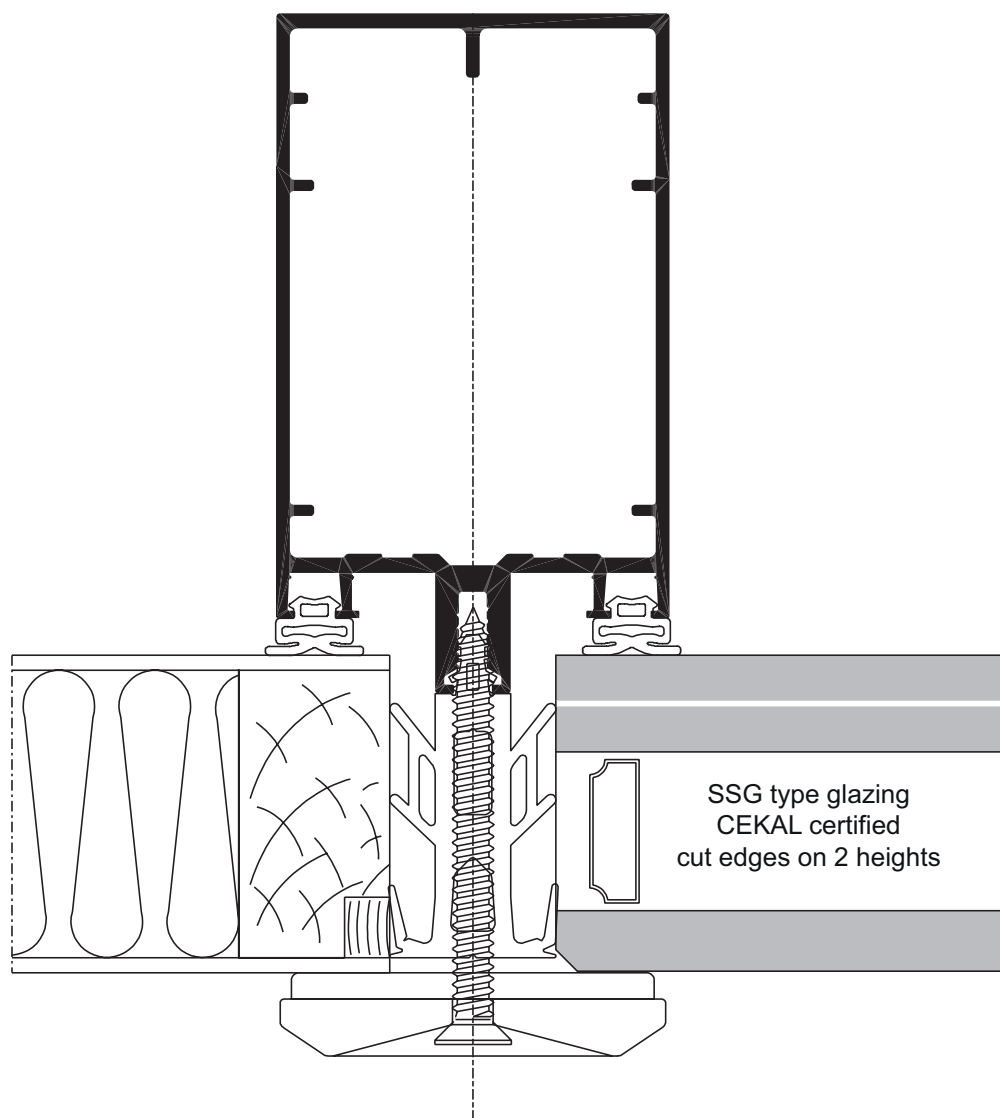


geffc231

Nodes

Fixed horizontal 'trame' aspect

■ horizontal cross-section

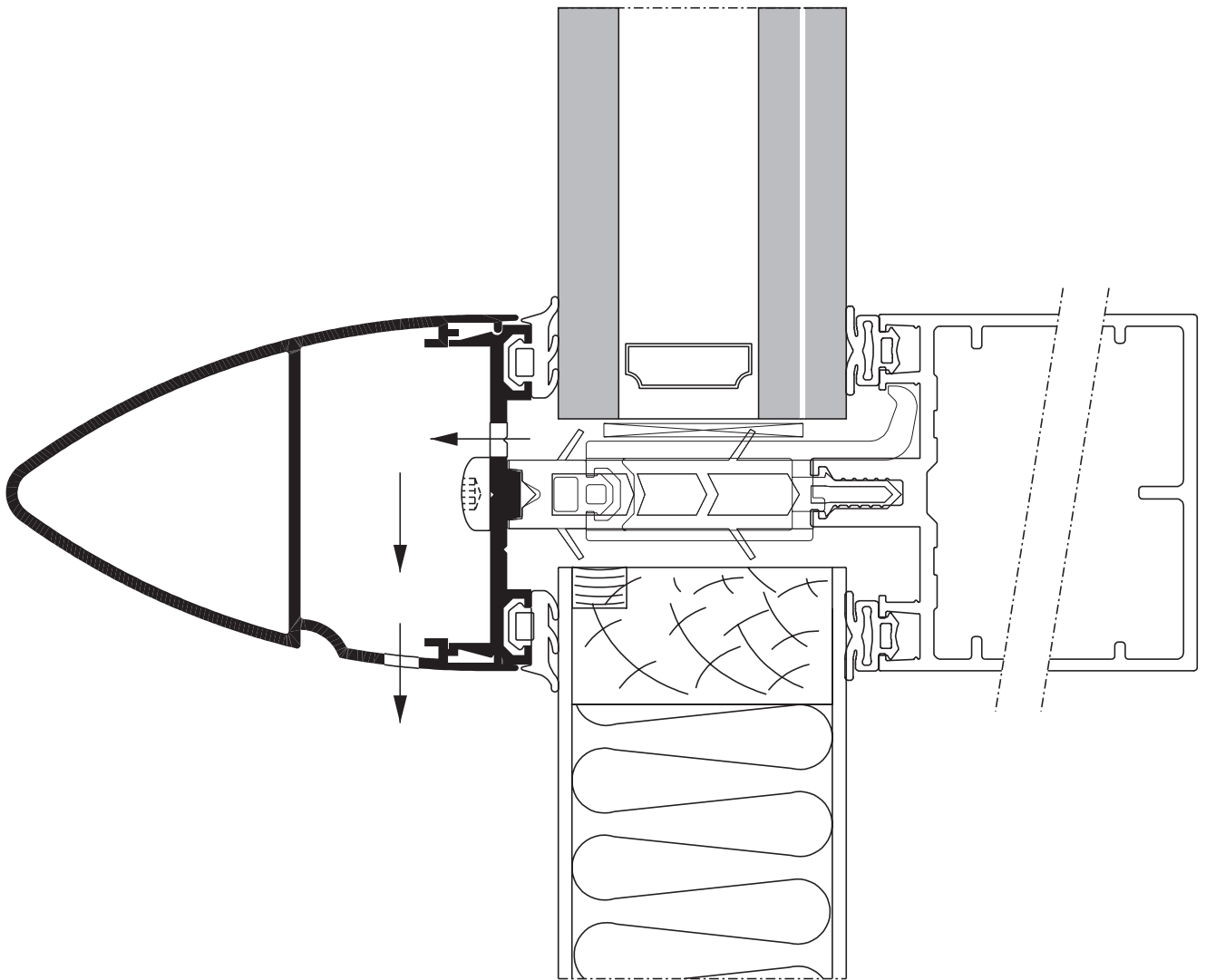


gefc232

Nodes

Fixed horizontal 'trame' aspect

■ vertical cross-section



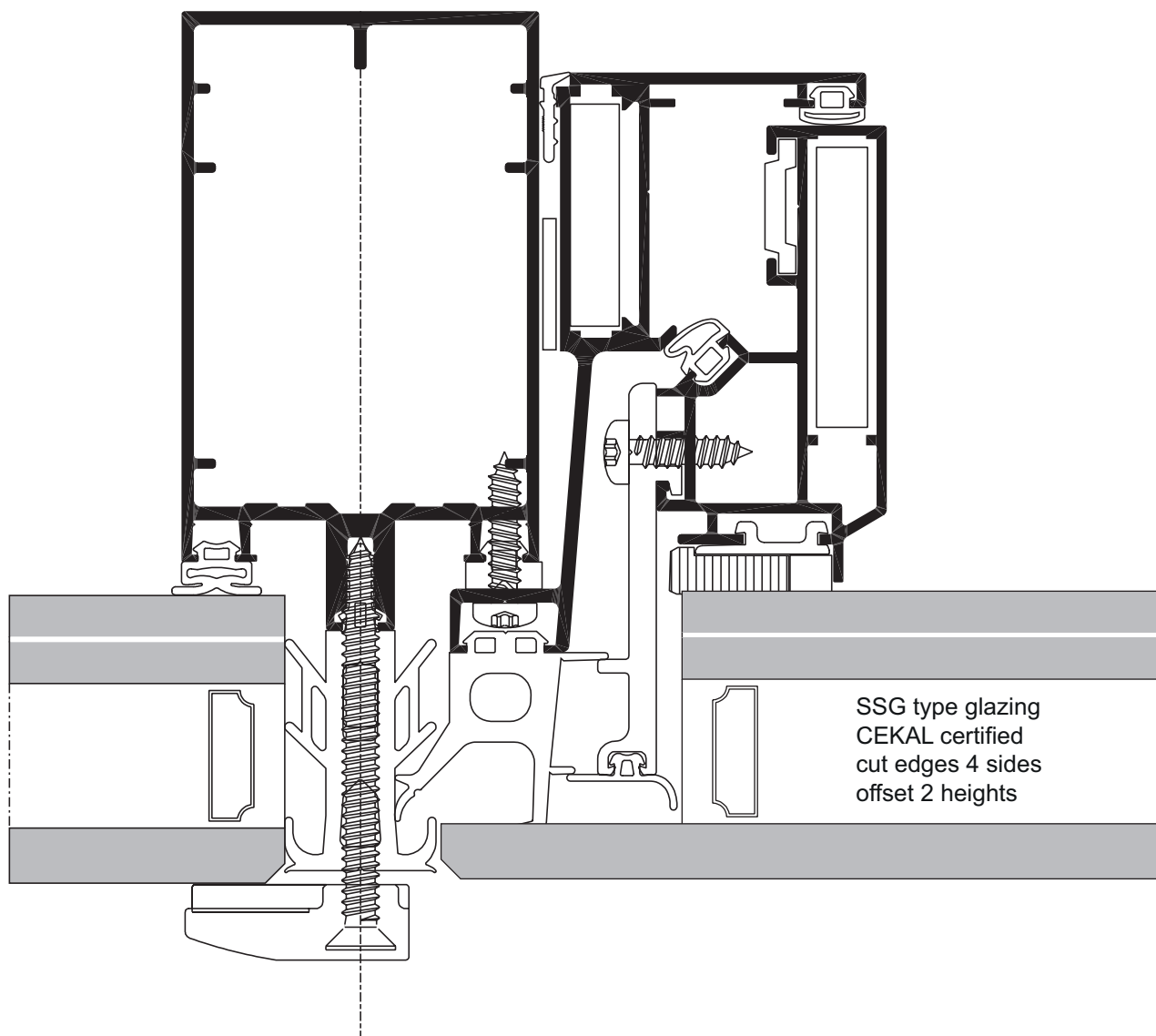
geffc233

TECHNAL®

Nodes

Top-hung horizontal 'trame' aspect

■ horizontal cross-section

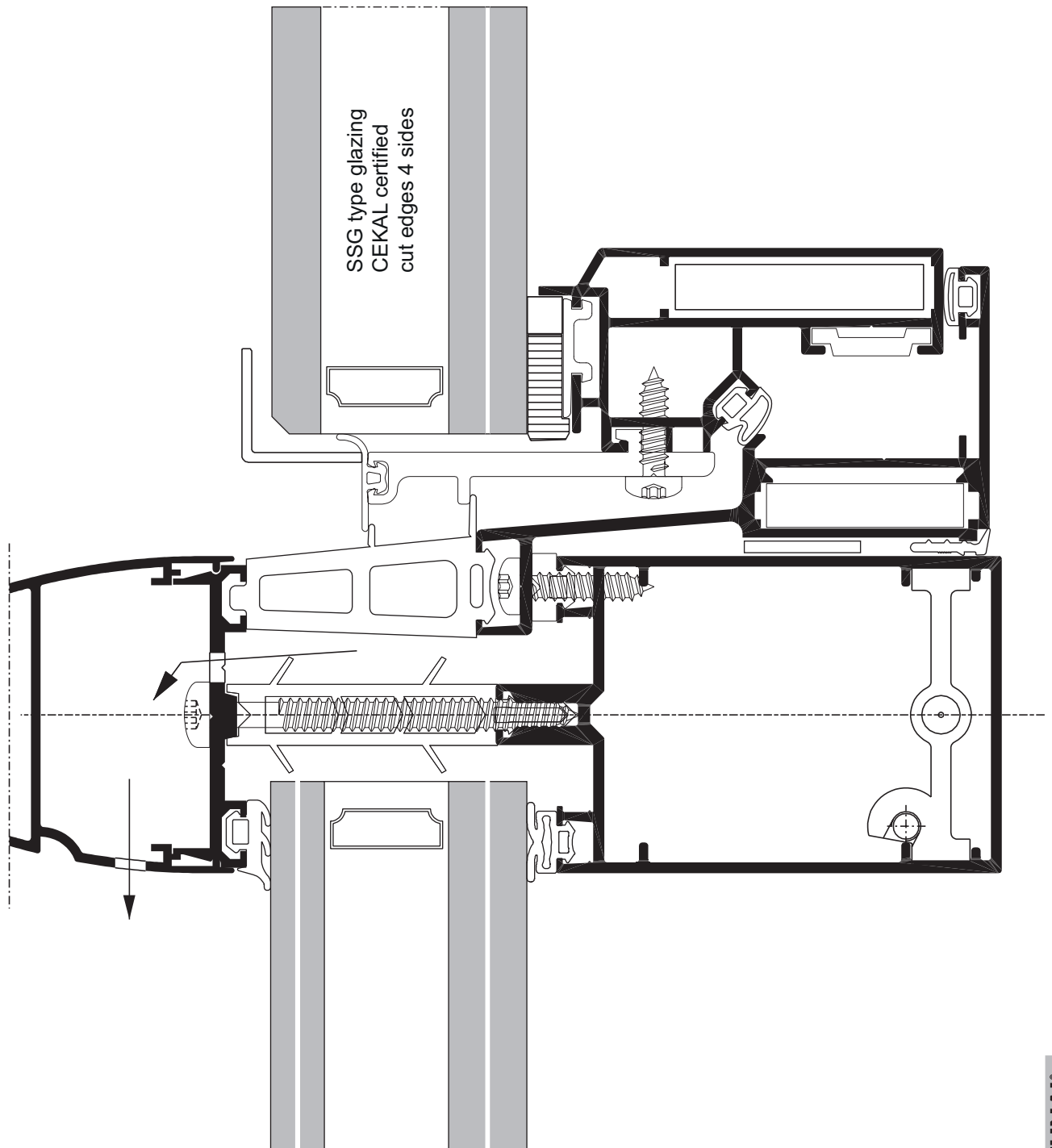


geffc234

Nodes

Top-hung horizontal 'trame' aspect

■ vertical cross-section



geffc235

GEODE

MX 52

Fabrication

■ Machining

- Machining of studs with angles	P. 86
- Machining of link profile	P. 86
- Machining for fixed splice plating	P. 87
- Top-hung vent machining	P. 88
- Top-hung vent machining	P. 88-89-90
- Large friction stay machining	P. 91
- Medium friction stay machining	P. 92
- Small friction stay machining	P. 93
- Top-hung keeps and locking wedge machining	P. 94
- Extra locking point machining	P. 95
- Top-hung embedded casing machining	P. 96
- Profile crimping	P. 97
- Pressure plate machining	P. 98
- Machining of gaskets for top-hung grid aspect	P. 99
- Machining of gaskets for top-hung horizontal frame aspect	P. 100
- Machining of gasket JM089 grid aspect	P. 101

■ Assemblies

- Mounting of sealing plugs grid aspect	P. 102
- Mounting of sealing plugs horizontal t aspect	P. 103
- Mounting of sealing plugs horizontal frame	P. 104-105
- Mounting of PVC protection profile FM294	P. 106
- Mounting the connection profile on masonry	P. 107
- Implementation of presser CM191	P. 108
- Assembly of top-hung frame	P. 109
- Mounting of top-hung lock	P. 110
- Mounting of top-hung limiter	P. 111
- Mounting of wedge and spacer	P. 112
- Mounting of covers	P. 113
- Positioning of security parts	P. 114
- Procedure for glueing SSG sashes	P. 115
- Precautions for transportation	P. 116

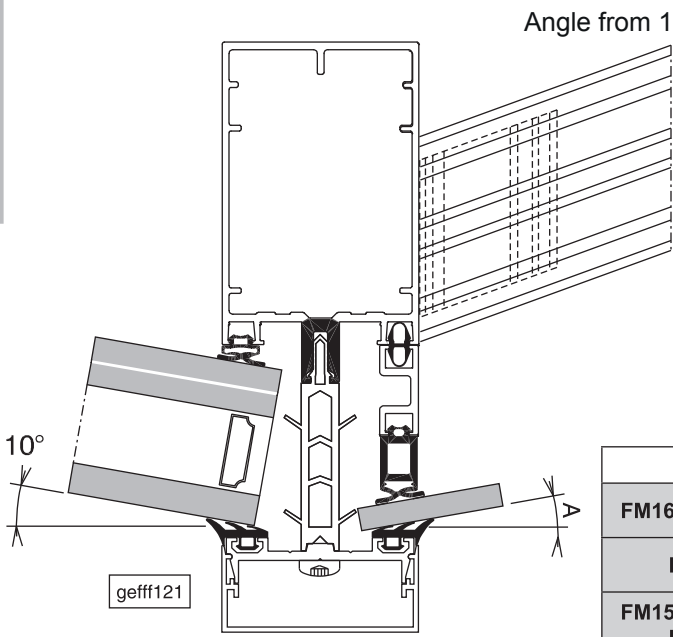
■ Tools

- Drill jig OM135 for frame top-hung limiter	P. 117
- Drill jig OM137 for sash top-hung limiter	P. 118-119-120
- Drill jig OM139 for security parts	P. 121

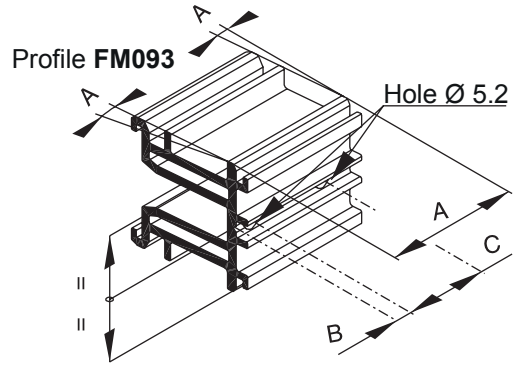
Machining

Machining of studs with angles

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Example : Connector for FM155

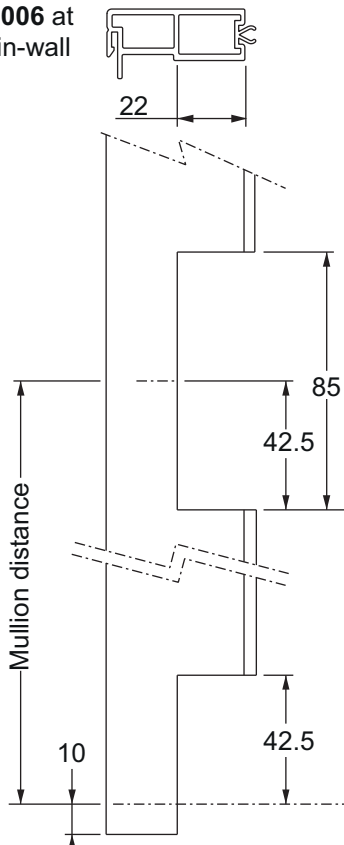


	A	B	C
FM166 et FM252	22.6	Start point 5.8	Span 11
FM155	42.6		Span 26.5
FM156 et FM253 FM100 FM169 et FM254	62.5	Start point 5.3	Span 46.5
FM157	102		Span 46.5 and 78
FM158 FM255 FM256	122		Span 46.5 and 97
FM257 MX2603 - MX2604	162 *		Span 46.5 and 130

* Length identical for cut straight connectors

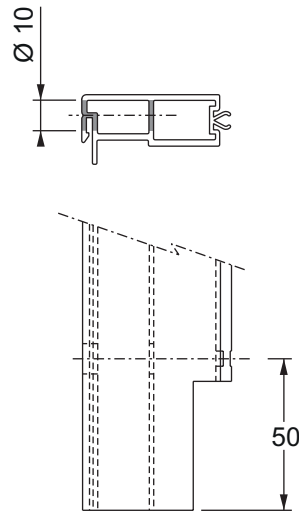
Machining of link profile

PVC profile YM006 at bottom of curtain-wall



Cutting at each frame

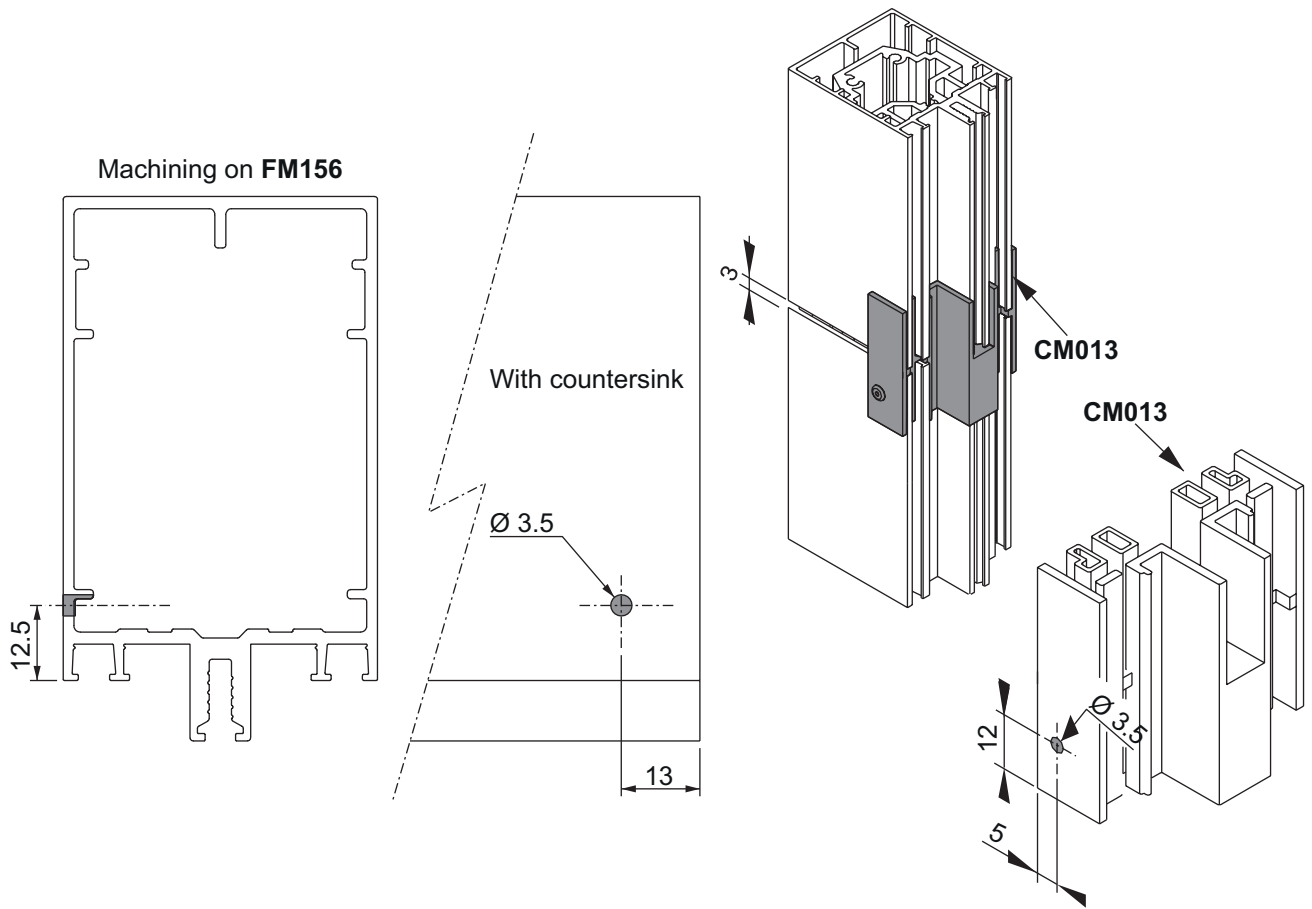
Screw fixing VE109
2 screws min per length



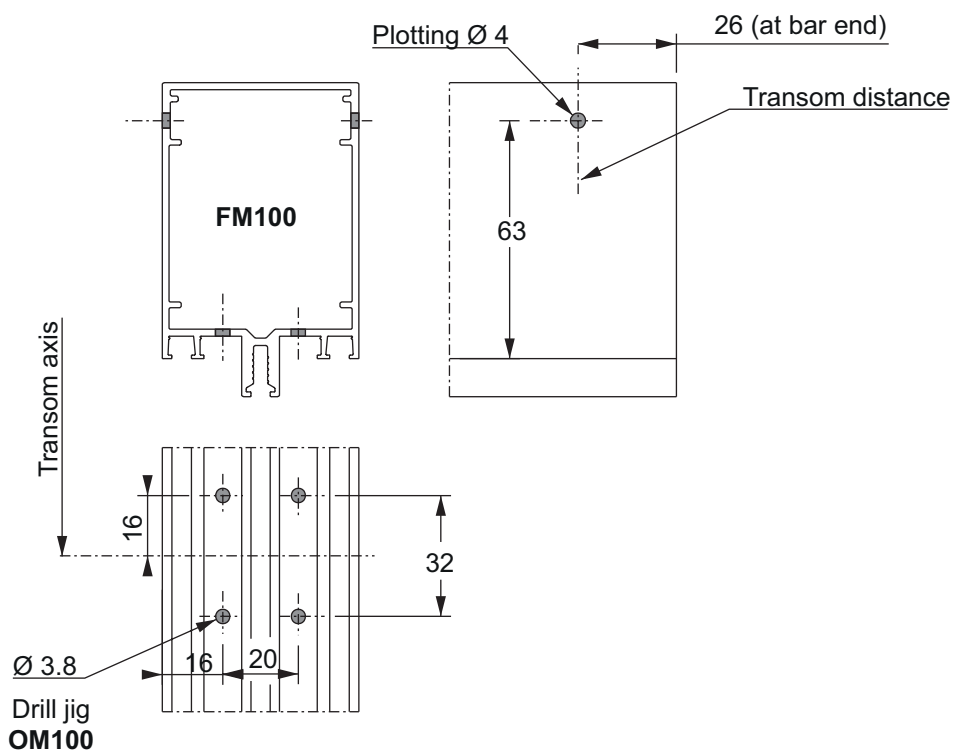
gefff094

Machining

Machining for fixed splice plating



Machining for connector **EM070** and anti-rotation **EM009**



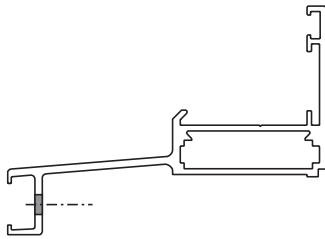
geff140

Machining

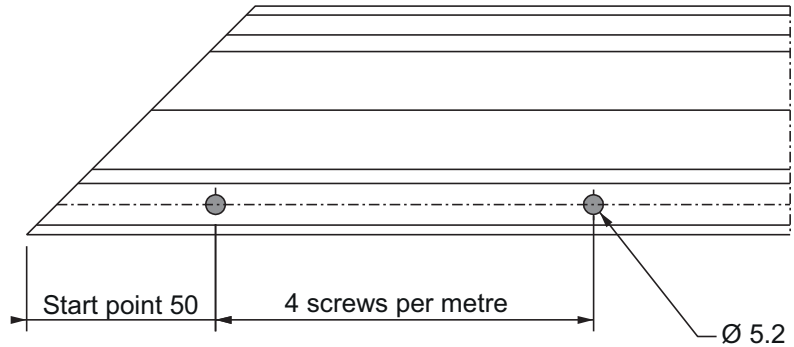
Machining for fixing top-hung frame FM291

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Fixing of top-hung frame

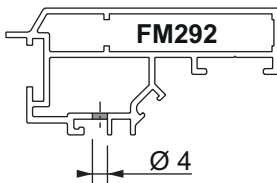


Tool **OM119**

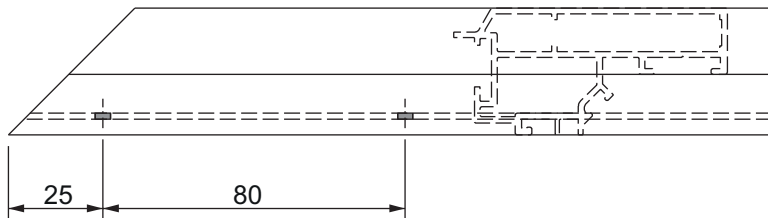


Top-hung vent machining

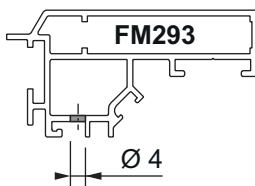
Machining for security part



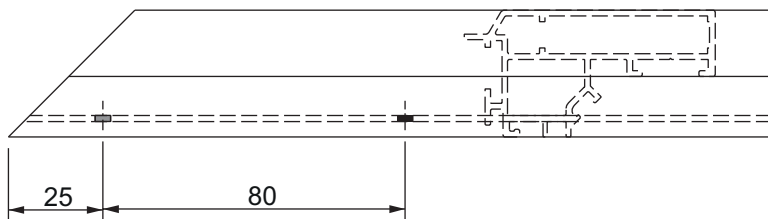
Machining of bottom transom each side



OM139 Drill jig right/left reversible



Machining of bottom transom each side

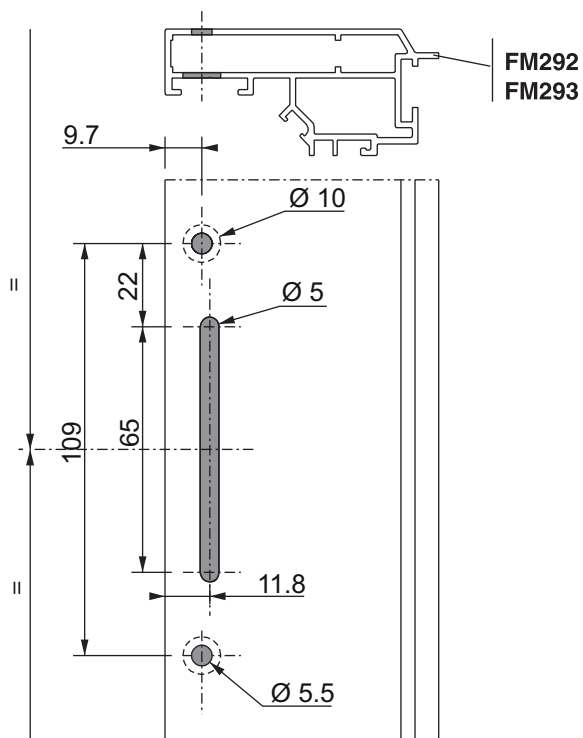


Machining

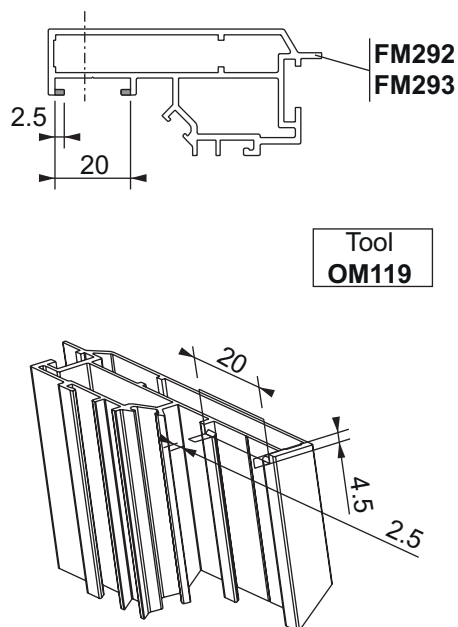
Top-hung vent machining

FM292 - FM293

Machining for locking mechanism **KM004**



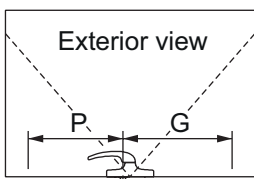
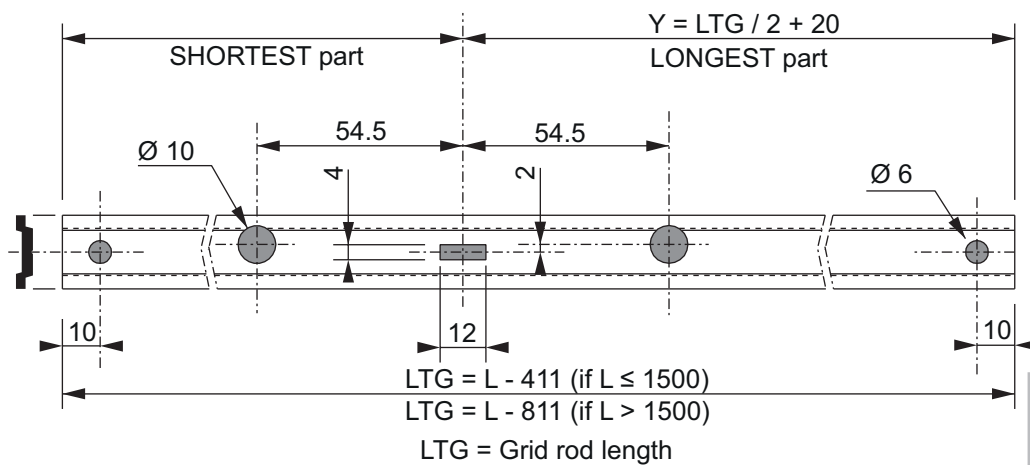
Notching on mullions at top and bottom



Machining of rod **FM060**

VENT WIDTH : 600 - 1750
VENT HEIGHT : 600 - 1200

Tool
OM119



Rod dimensions are measured based on grid width :
curtain-wall mullion centrelines

gefff096

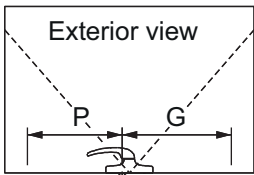
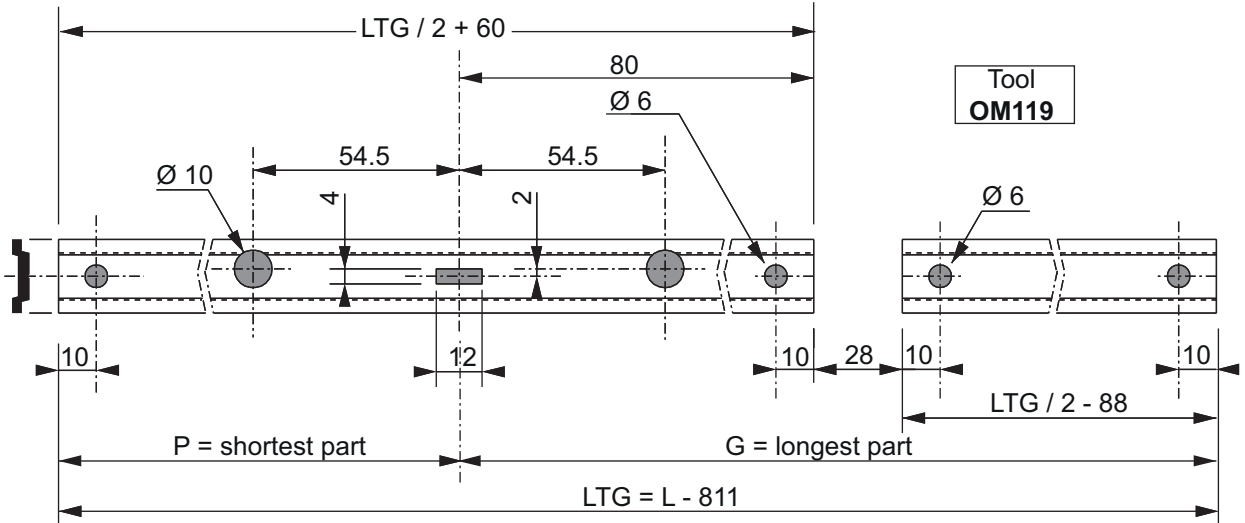
TECHNAL®

Machining

Top-hung vent machining

TECHNICAL

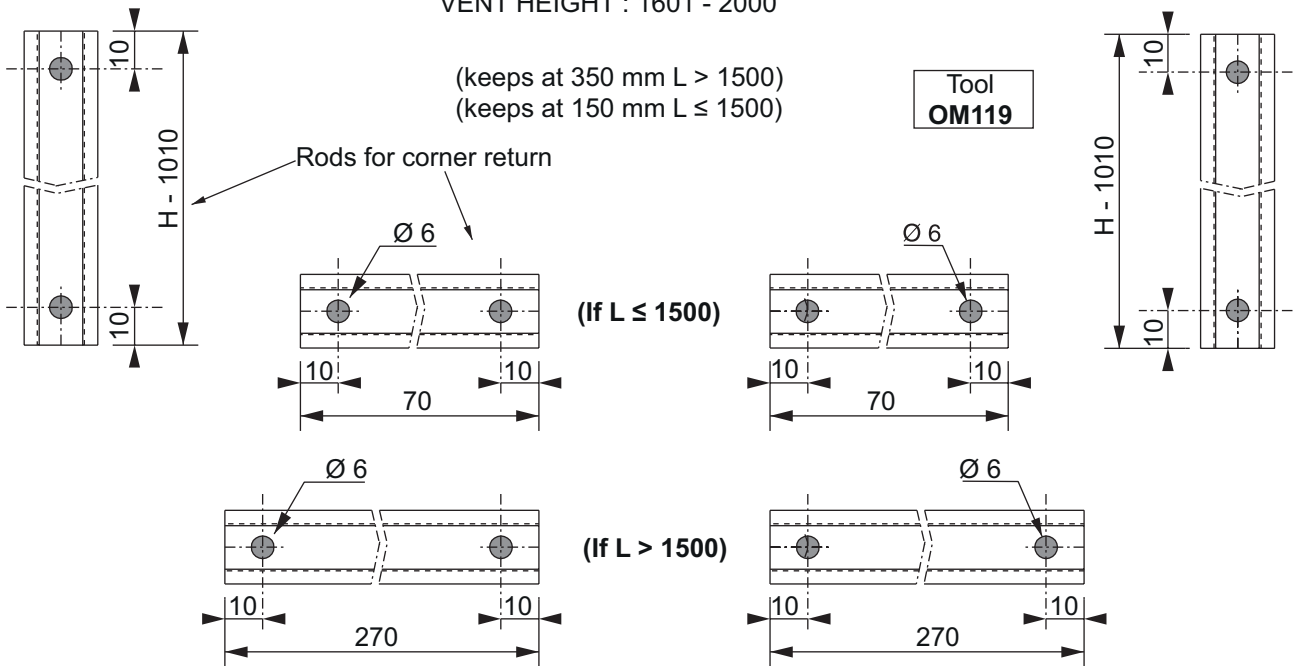
VENT WIDTH : 1751 - 2000
VENT HEIGHT : 600 - 1200



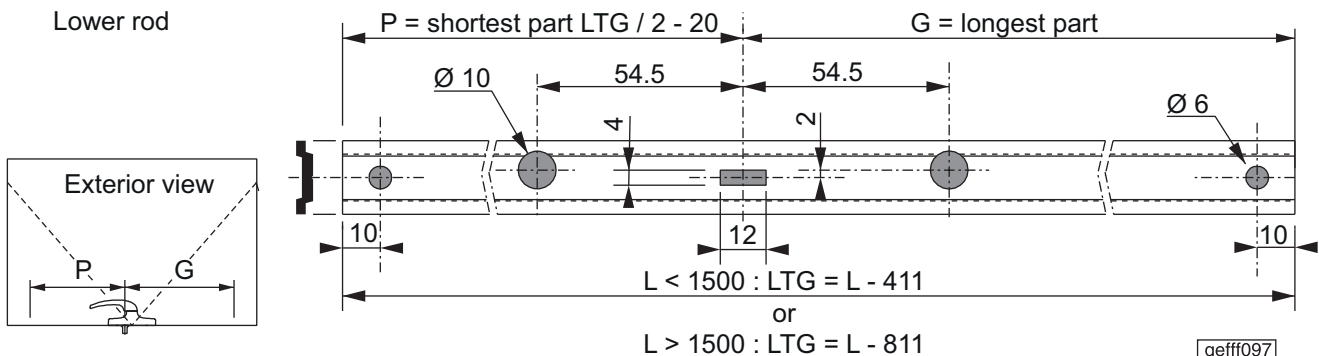
! Rod dimensions are measured based on grid width : curtain-wall mullion centrelines

VENT WIDTH : 600 - 1750
VENT HEIGHT : 1601 - 2000

(keeps at 350 mm $L > 1500$)
(keeps at 150 mm $L \leq 1500$)

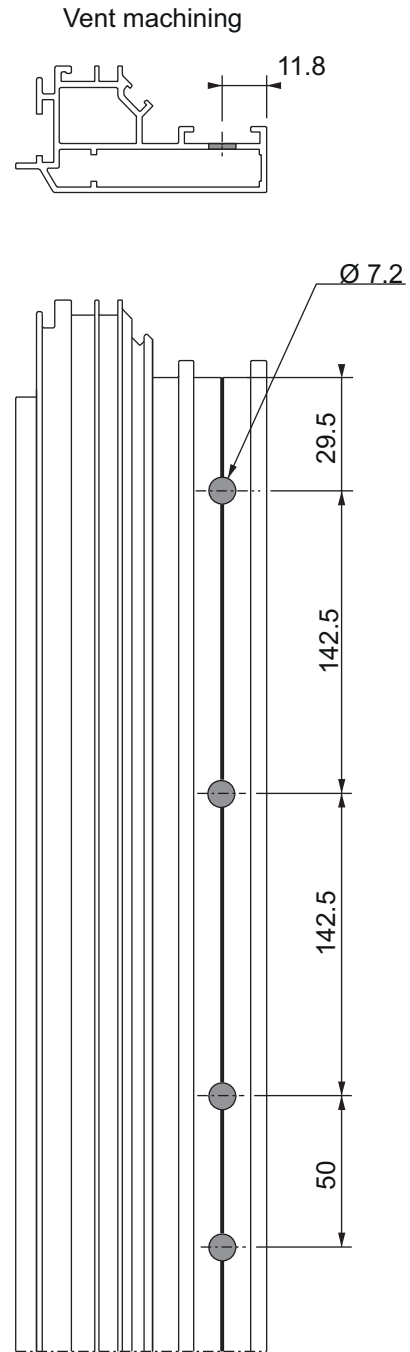
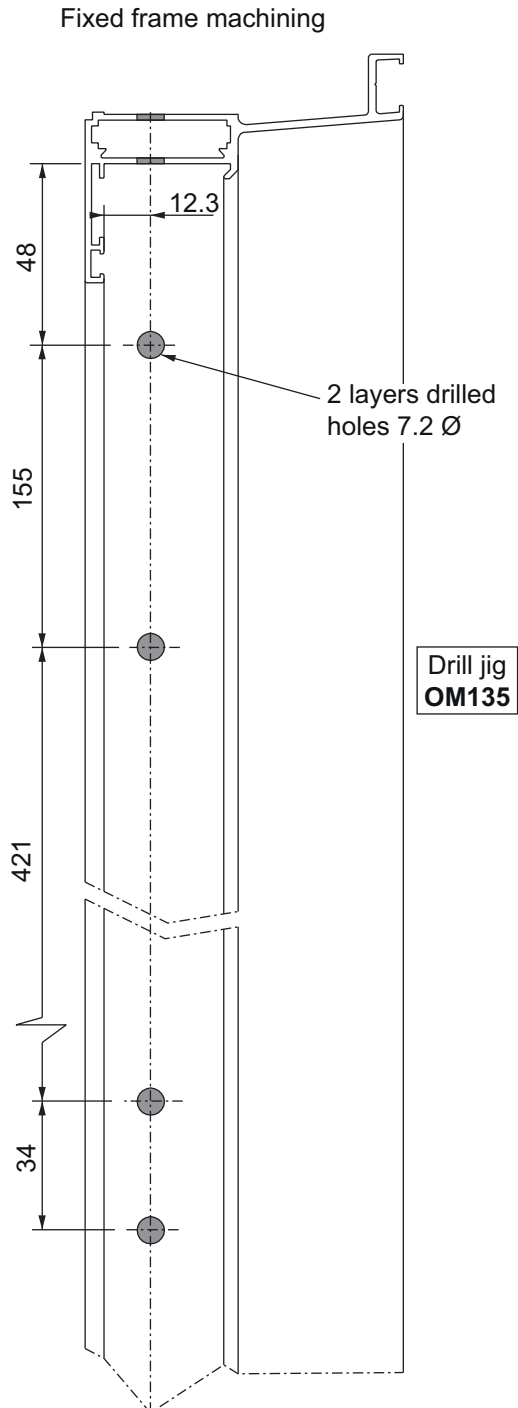


Lower rod



Machining

Large friction stay machining



Crimp fixed and vent frames before crimping blind nuts

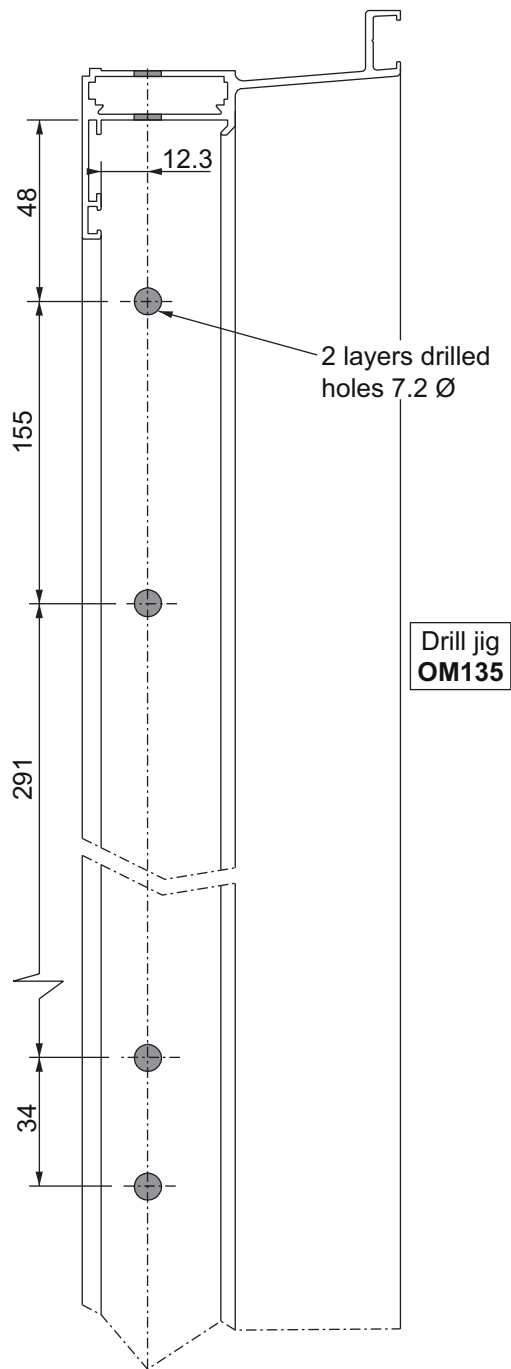
geff098

Machining

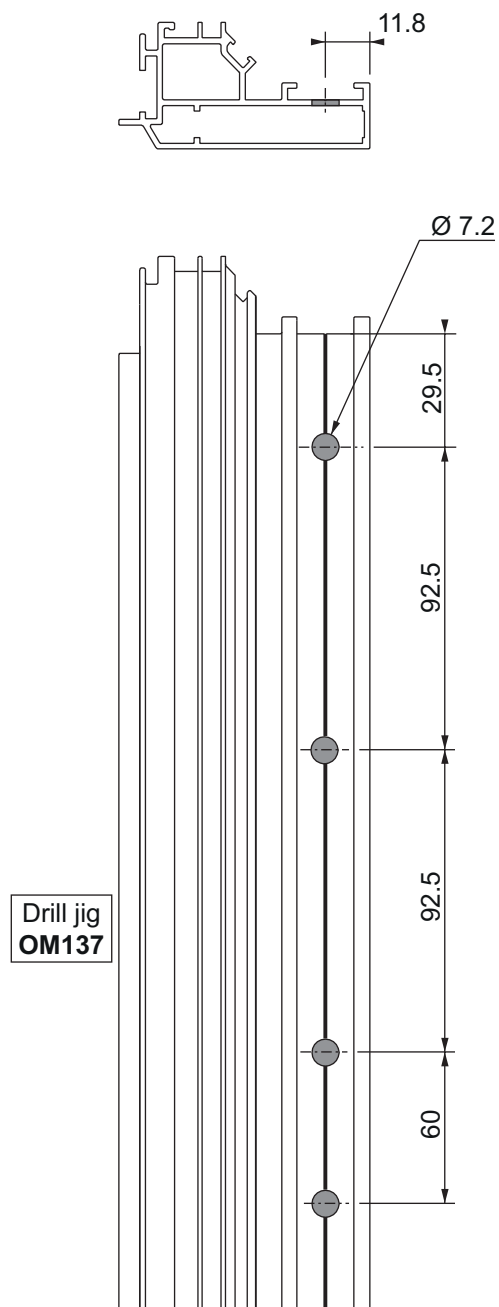
Medium friction stay machining

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Fixed frame machining



Vent machining

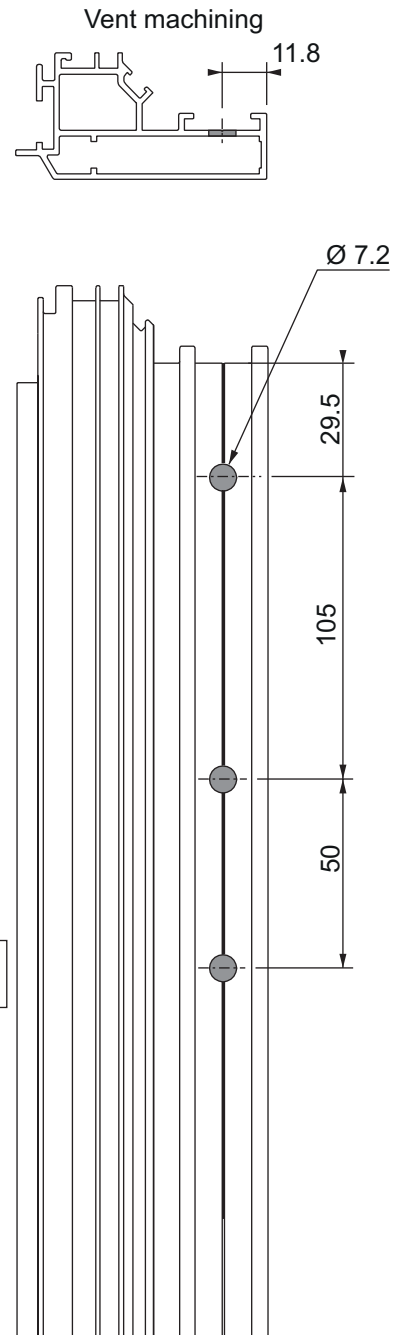
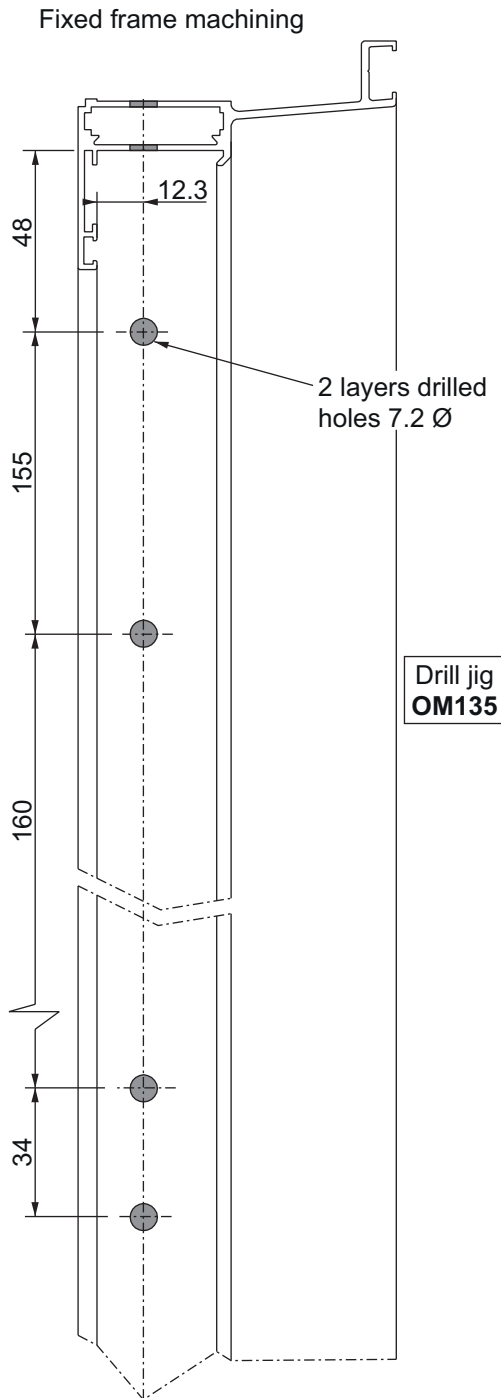


Crimp fixed and vent frames before crimping blind nuts

gefff099

Machining

Small friction stay machining



Crimp fixed and vent frames before crimping blind nuts

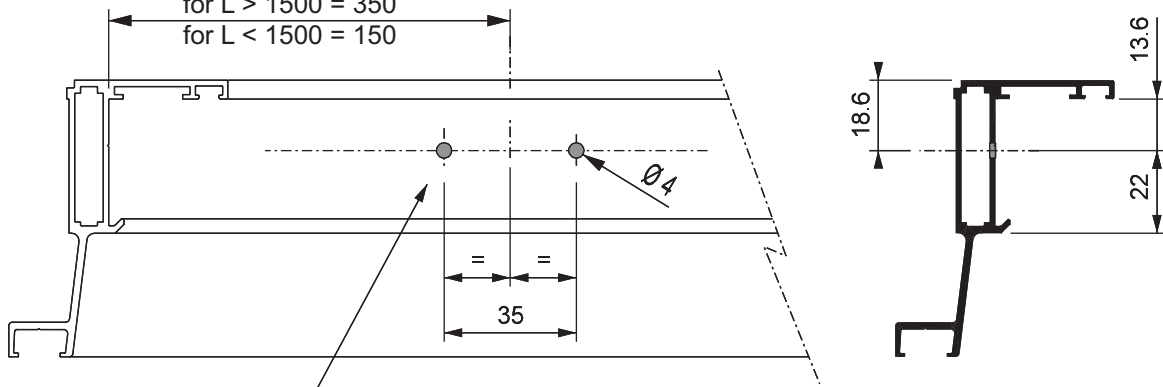
geff100

Machining

Top-hung keeps and locking wedge machining

TECHNAL®

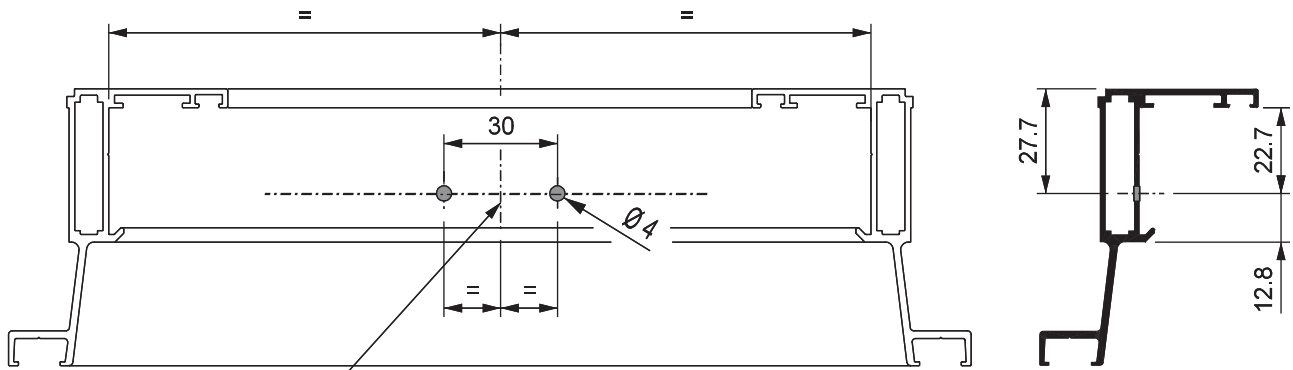
Machining for **KM004** keeps on lower transom
 for L > 1750 = 350 with keep at L + 35 (measured from the internal face of the frame)
 for L > 1500 = 350
 for L < 1500 = 150



Use drill jig **OM065**
 mark G

Drill jig
OM065

Machining for **KM601** locking wedge on upper transom



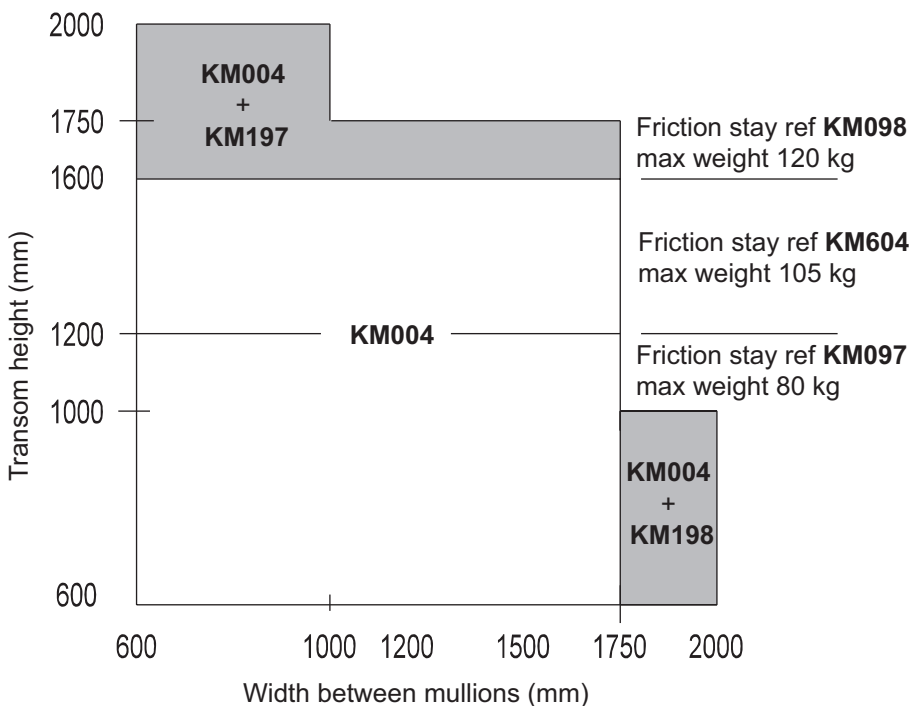
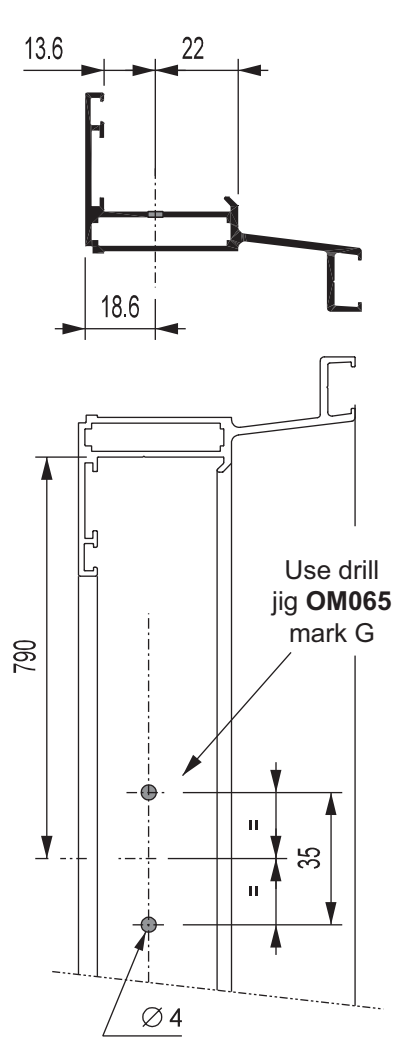
Use drill jig **OM065**
 mark R

- L < 950 : 1 locking wedge set to be installed in the centre of the upper transom of vent (**FM231, FM232**) and outer frame (**FM233**)
- 950 < L < 1500 : 2 locking wedges to be installed on upper transoms, start point 350 mm
- L > 1500 : 3 locking points, starting at 200 mm plus one in transom centre

Machining

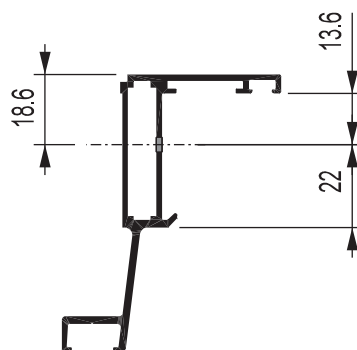
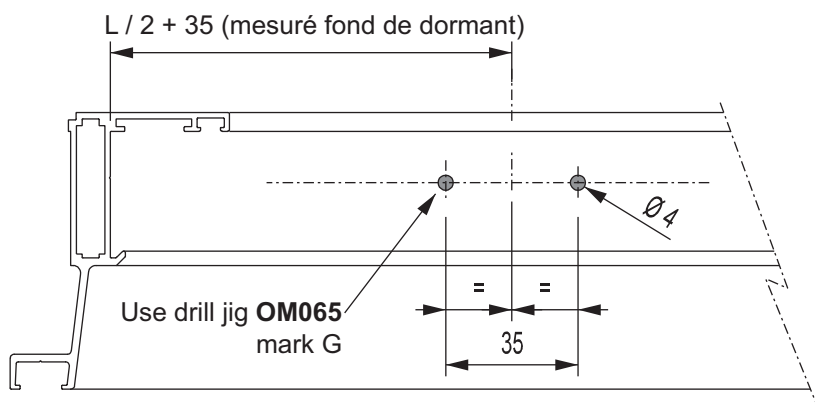
Extra locking point machining

Machining for keeps **KM197** if $H > 1600$



Drill jig
OM065

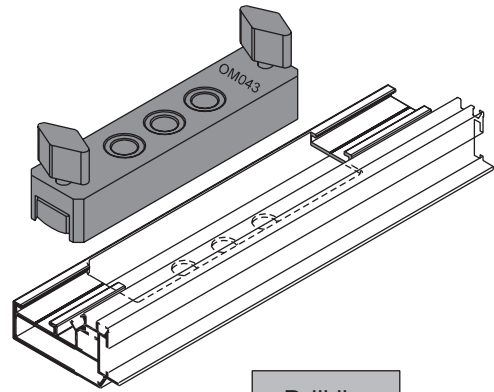
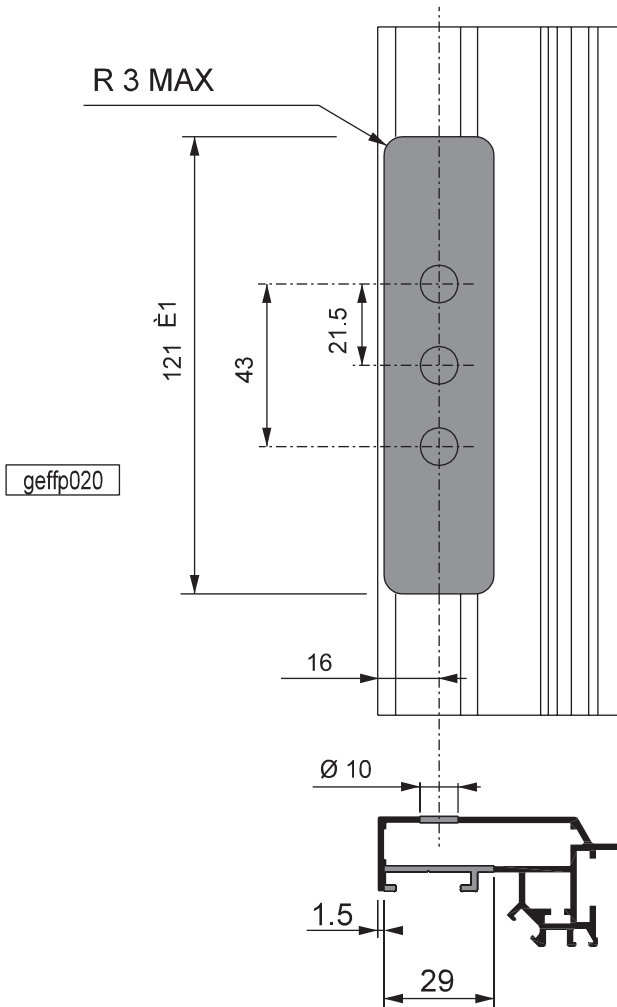
Machining for keeps **KM198** if $W > 1750$



Machining

Top-hung embedded casing machining

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Drill jig
OM043

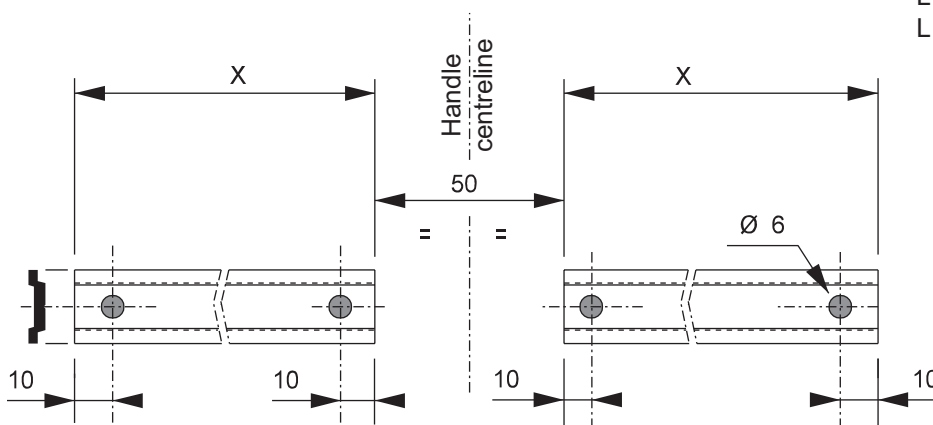
Machining instructions

- 1 - Carry out rectangular milling using a grinder
- 2 - Position drill jig
- 3 - Drill 10 mm diameter holes

! Rod dimensions are measured based on grid width : curtain wall mullion centrelines

Rod dimensions

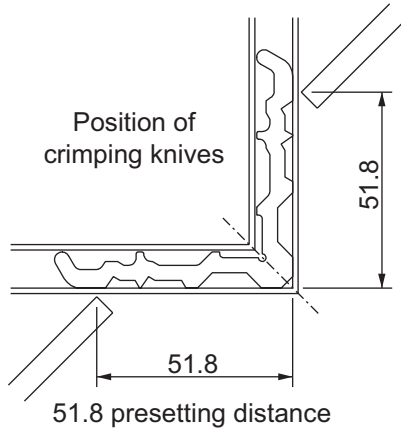
- $L \leq 1500$ $X = W/2 - 209$
- $L > 1500$ $X = W/2 - 404$
- L = frame width axis



Tool
OM119

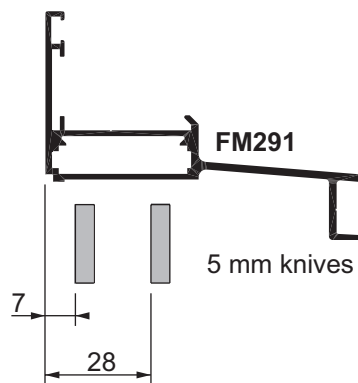
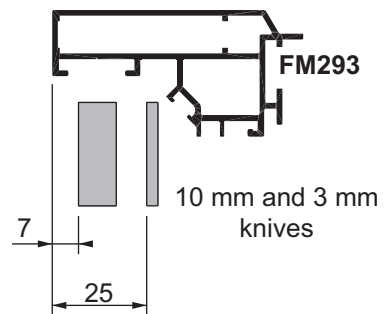
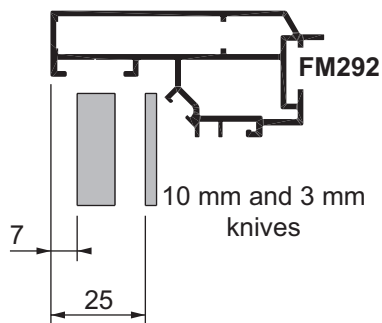
Machining

Profile crimping



Crimping instructions

- Corner cleats are bonded and crimped
- Be sure sections are weatherproofed before assembly
- Weatherproofing with solvent-free neutral sealant
- Install cleats and crimp before installing blind nuts for friction stays



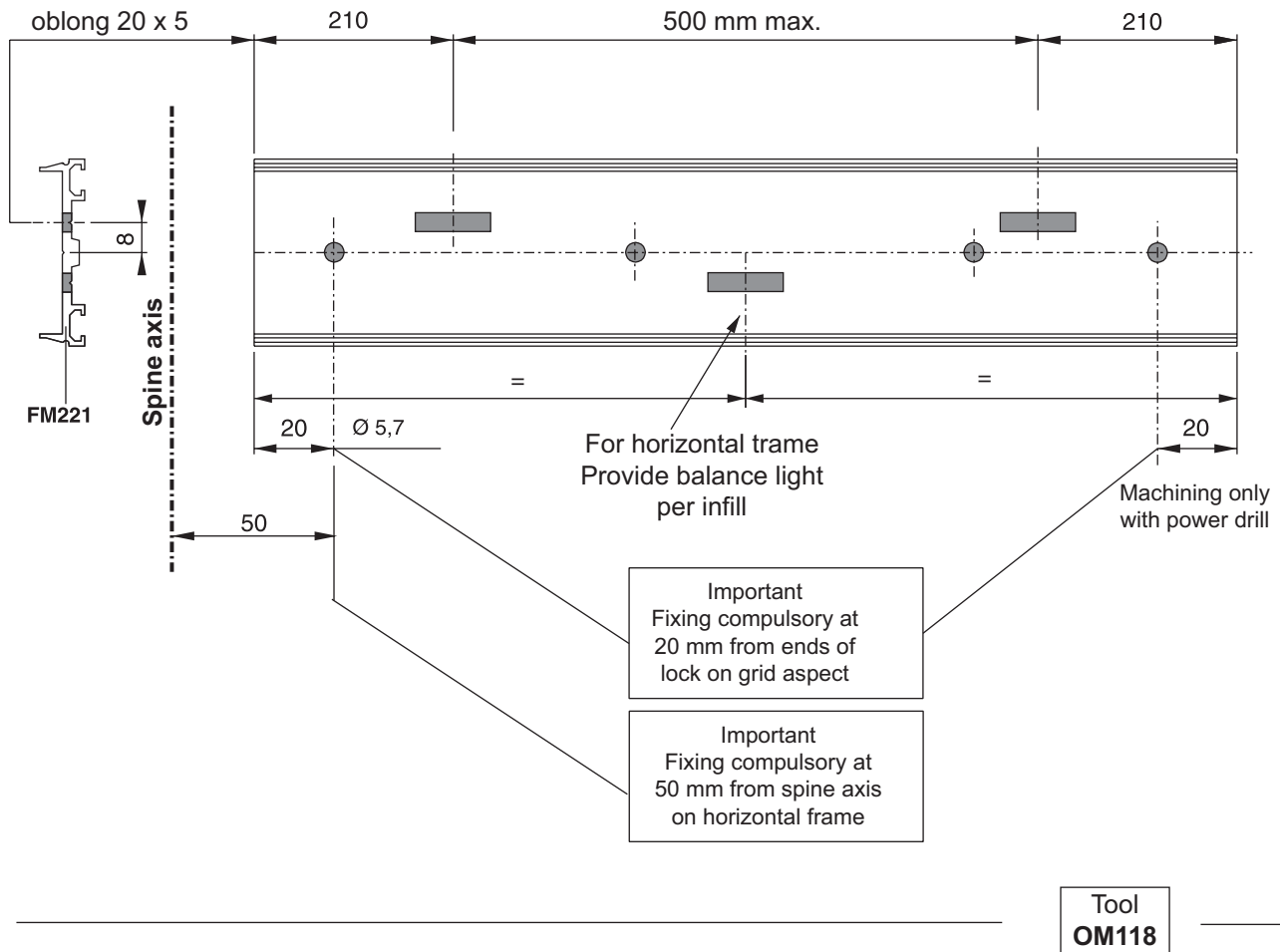
gefff104

Machining

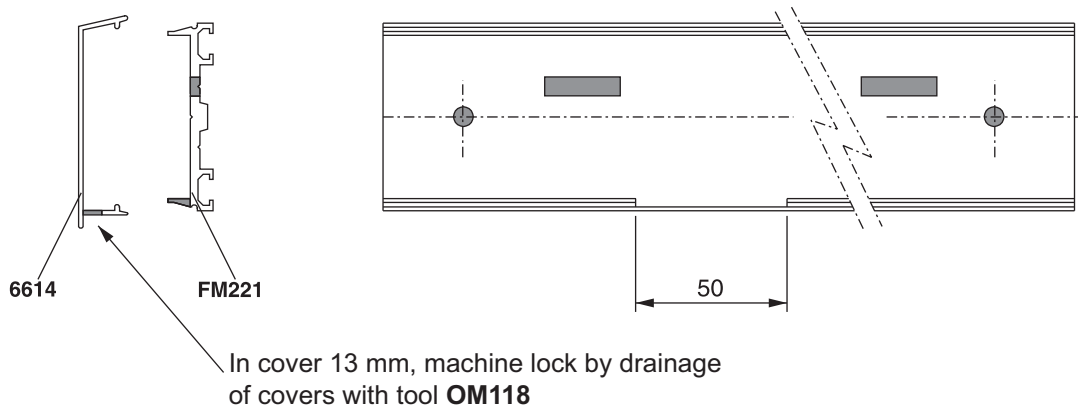
Pressure plate machining

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Machining on transom lock

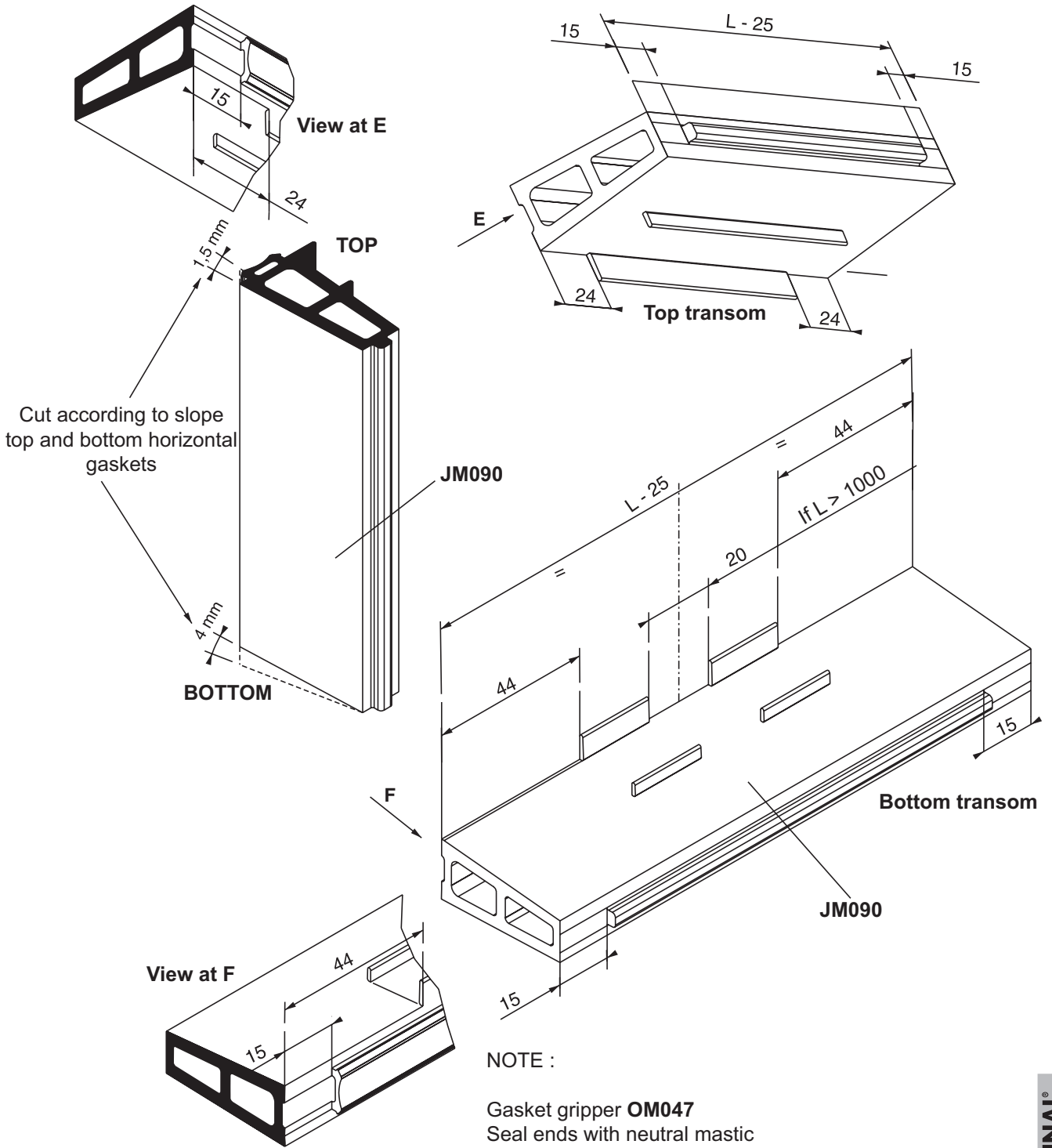


Machining for cover 13 mm



Machining

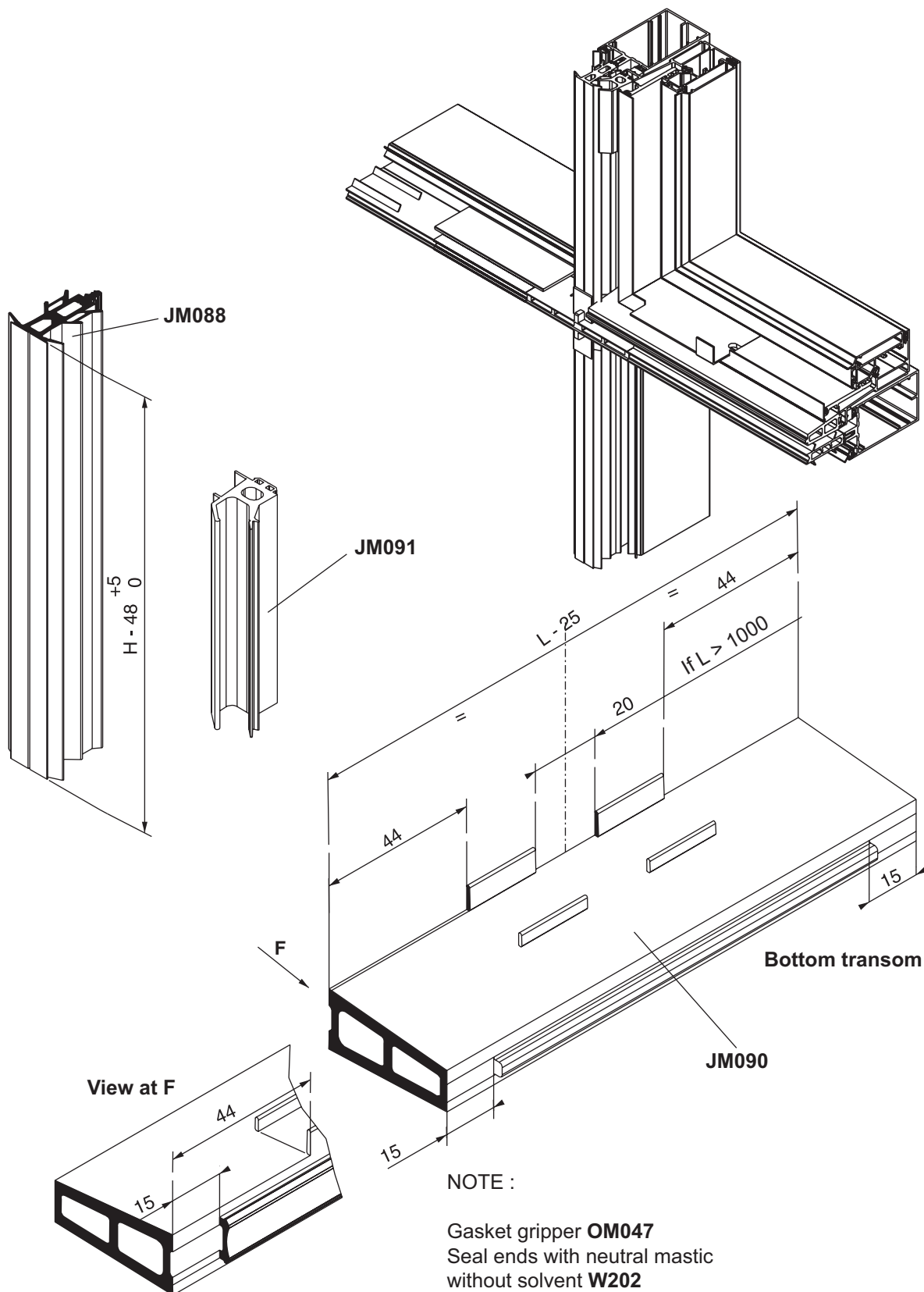
Machining of gaskets for top-hung grid aspect



Machining

Machining of gaskets for top-hung horizontal 'trame' aspect

TECHNAL®



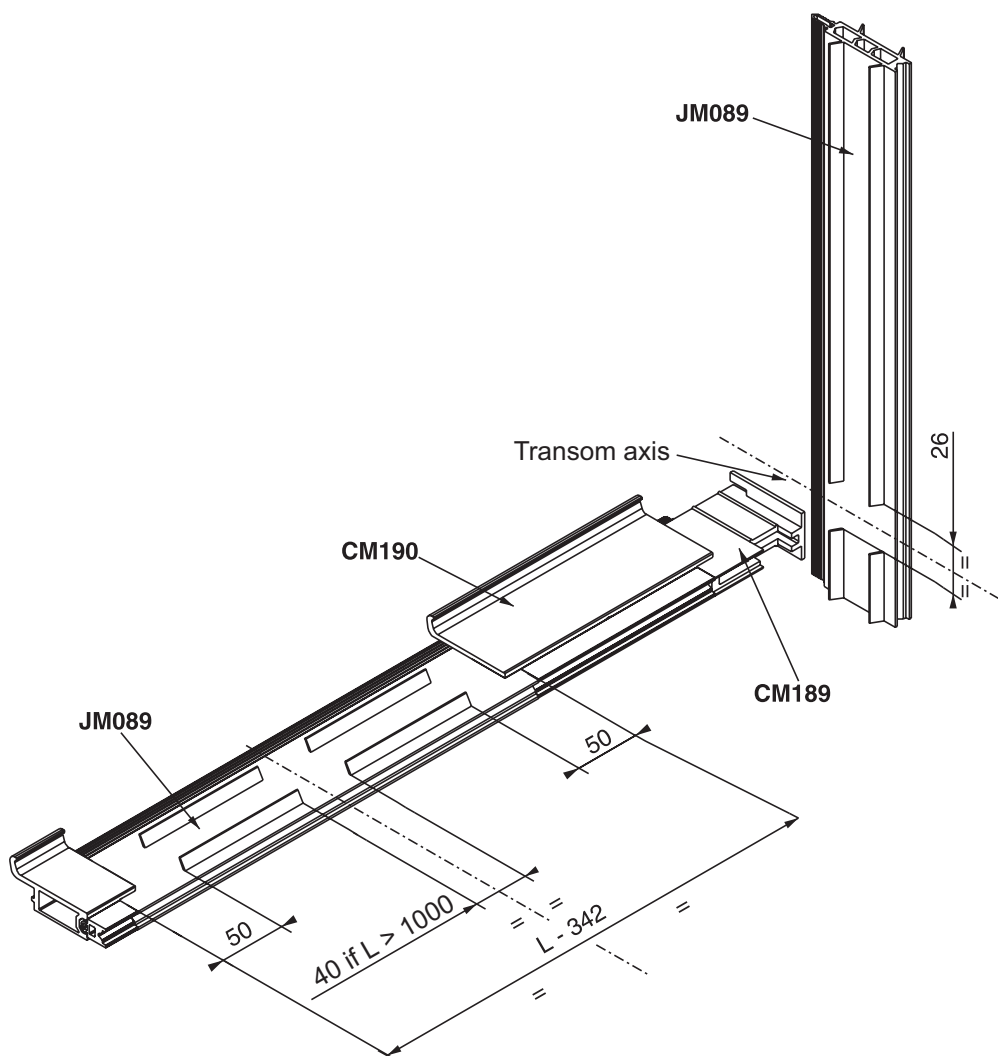
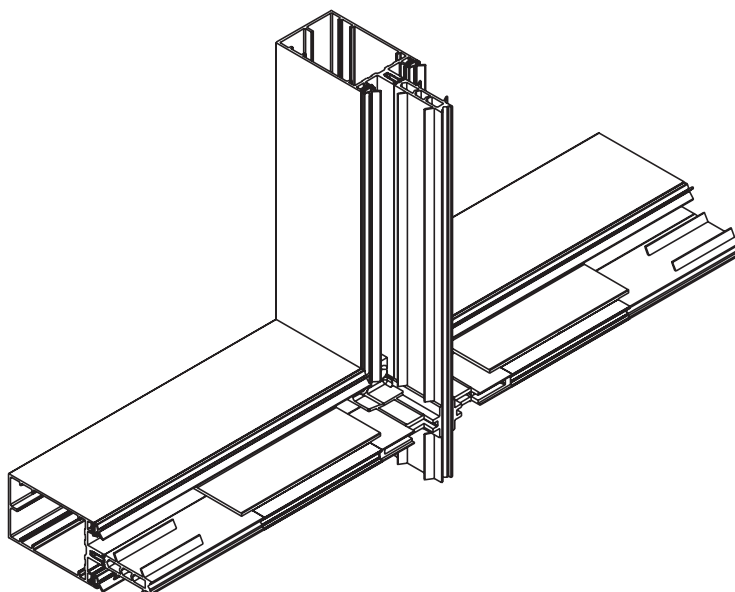
NOTE :

Gasket gripper **OM047**
 Seal ends with neutral mastic
 without solvent **W202**

gefff106

Machining

Machining of gasket JM089 grid aspect



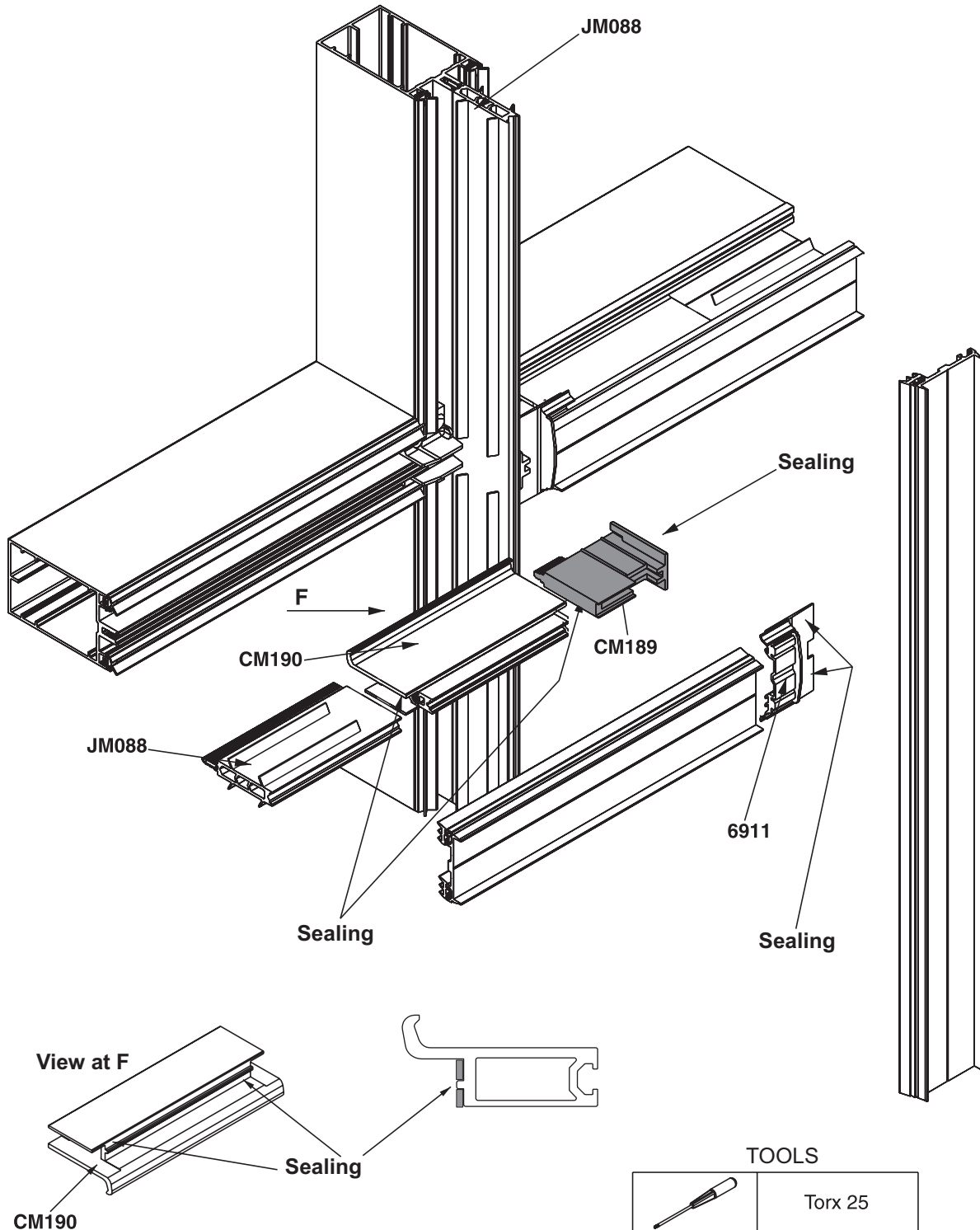
Usage sur traverse basse

geff107

Assemblies

**Mounting of sealing plugs
grid aspect**

TECHNAL®

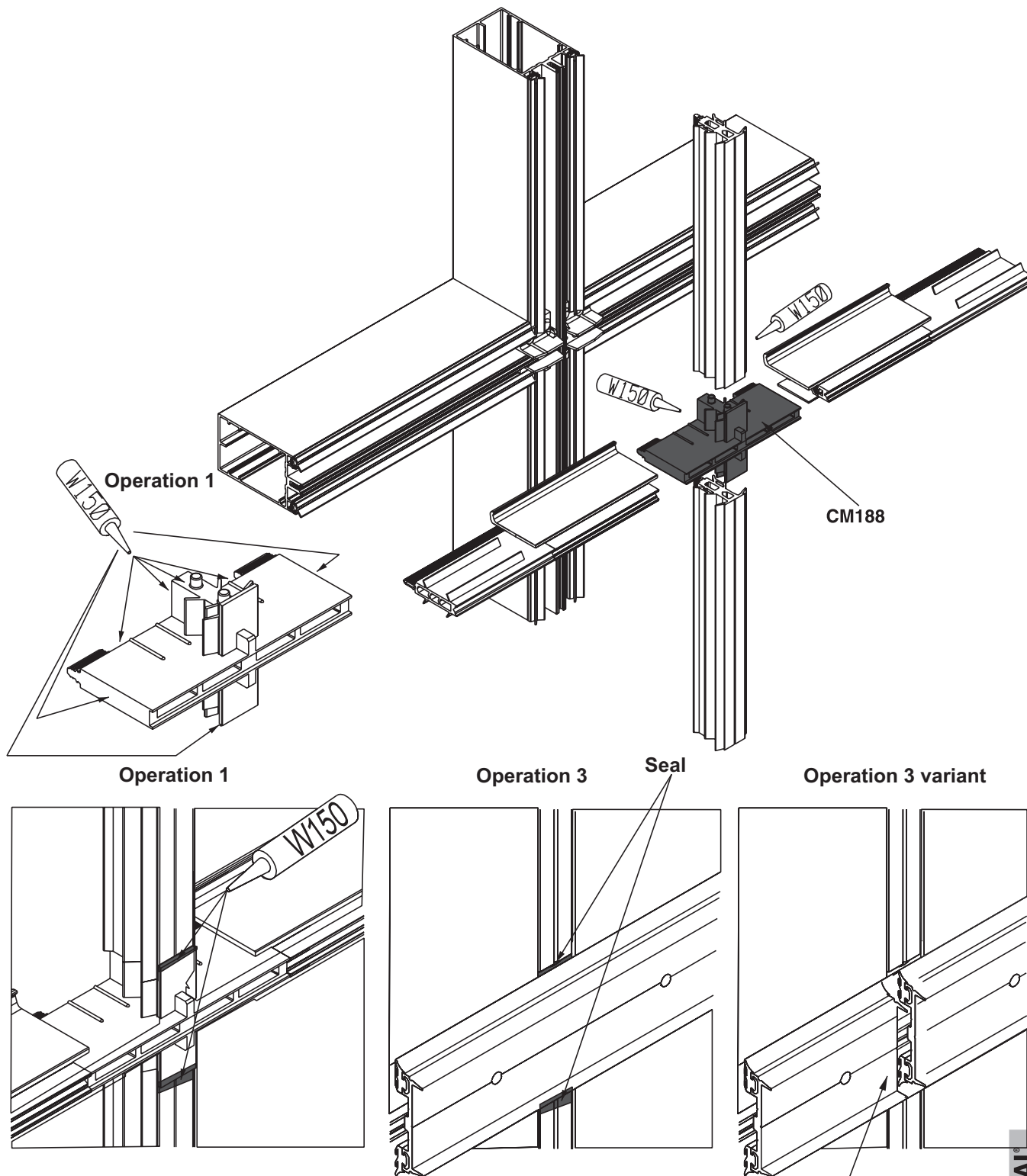


Mounting order :

- 1) - Position profile **JM088** on transom and mullion
- 2) - Mount plug **CM189** on connector after its injection.
- 3) - After fitting infills, mount locks equipped with gaskets and plugs **6911** sealed on gaskets in transom only (tightening torque 0.6 daN).
- 4) - Apply mastic to plug before fitting vertical lock

Assemblies

**Mounting of sealing plugs
horizontal 'trame' aspect**





Mounting order :

- 1) - Position profile **JM089** on transom and gasket **JM088** on mullion
- 2) - Mount plug **CM188** and seal all joints
- 3) - Place bead of W150 at join of plug **CM188** and gasket **JM088**
- 4) - on fitting the locks, check crushing of bead by horizontal glazing gasket

gefff109

TOOLS

	Mastic applicator
	W150

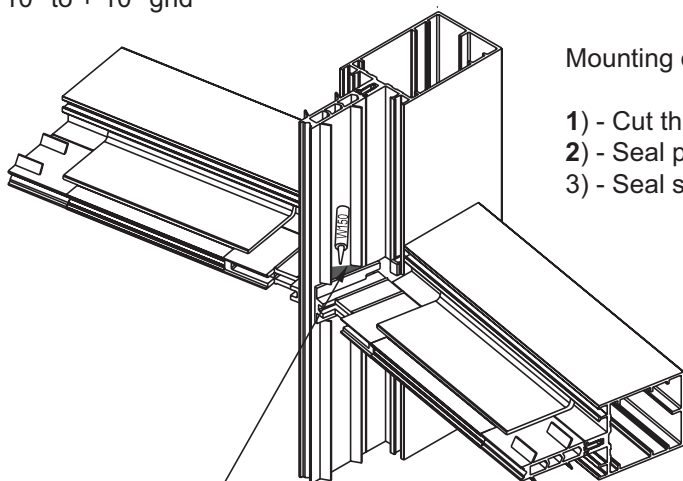
TECHNAL

Assemblies

Mounting of sealing plugs horizontal 'trame'

TECHNAL®

- 10° to + 10° grid



Mounting order :

- 1) - Cut the transom separator gasket **JM089** straight cut
- 2) - Seal plug on separator gasket
- 3) - Seal shim **CM190** on profile

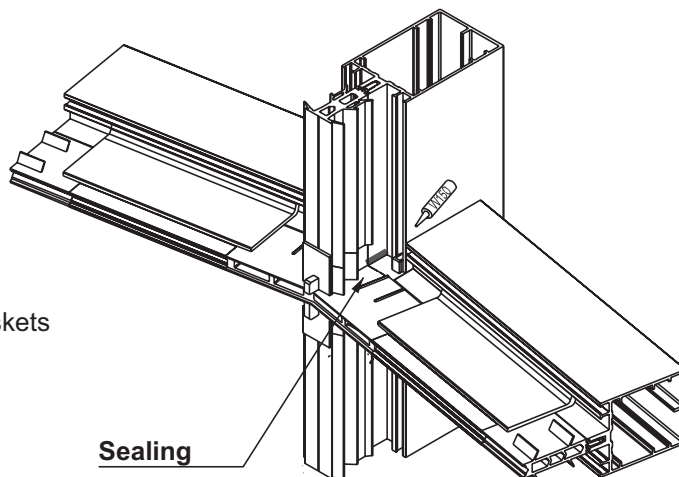
Sealing

Front installation

- 10° to + 10° horizontal trame

Mounting order :

- 1) - Cut the transom separator gasket straight cut
- 2) - Seal the plug on connector and separator gaskets



Sealing

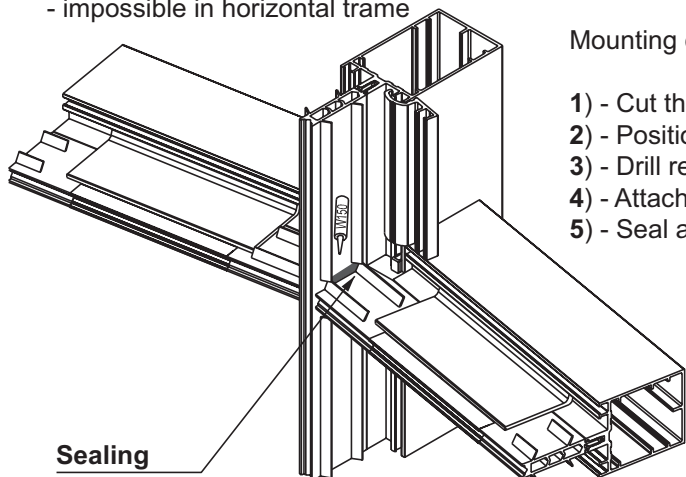
- 20° to + 20° grid

- impossible in horizontal trame

Advance installation



Mounting order :

- 1) - Cut the transom separator gasket according to transom angle
- 2) - Position added rebate in alignment on transom
- 3) - Drill rebate and mullion to Ø 4.2, countersink to Ø 5.2 on rebate
- 4) - Attach rebate with screws **VE102** every 300 mm
- 5) - Seal assembly



Sealing

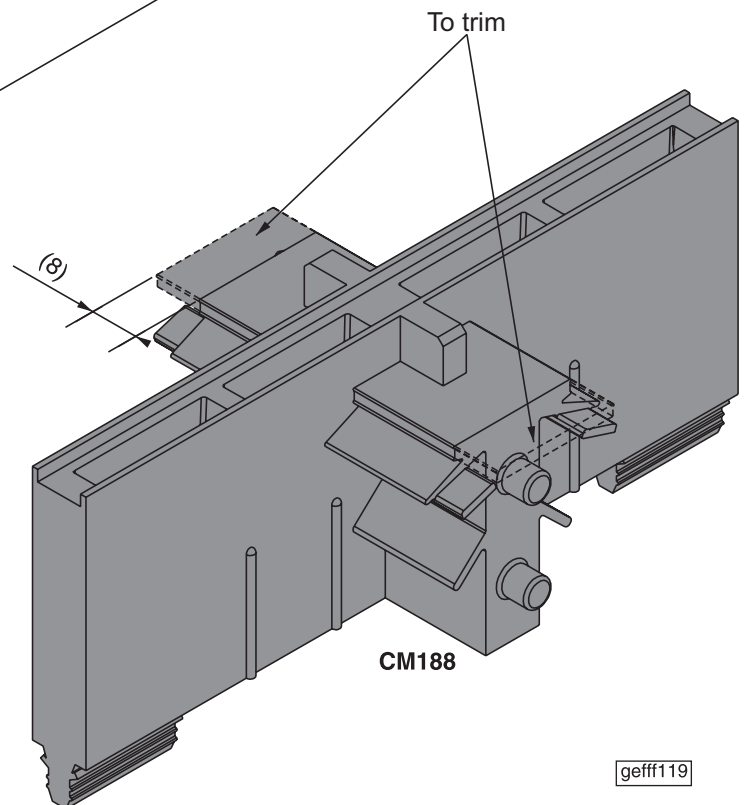
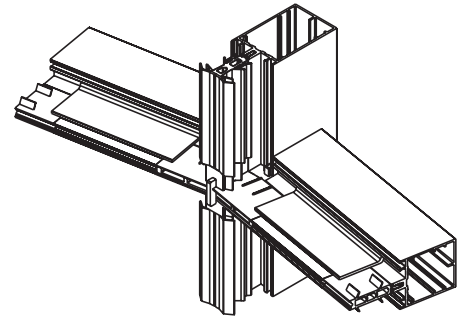
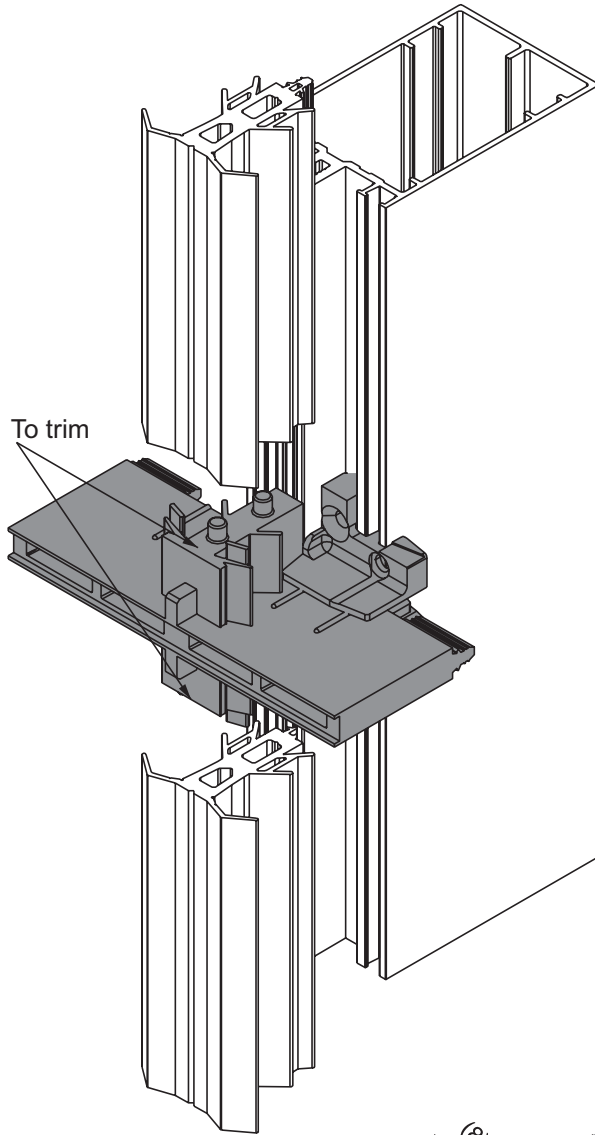
TOOLS

	Mastic applicator
	W150

Assemblies

Mounting of sealing plugs horizontal 'trame'

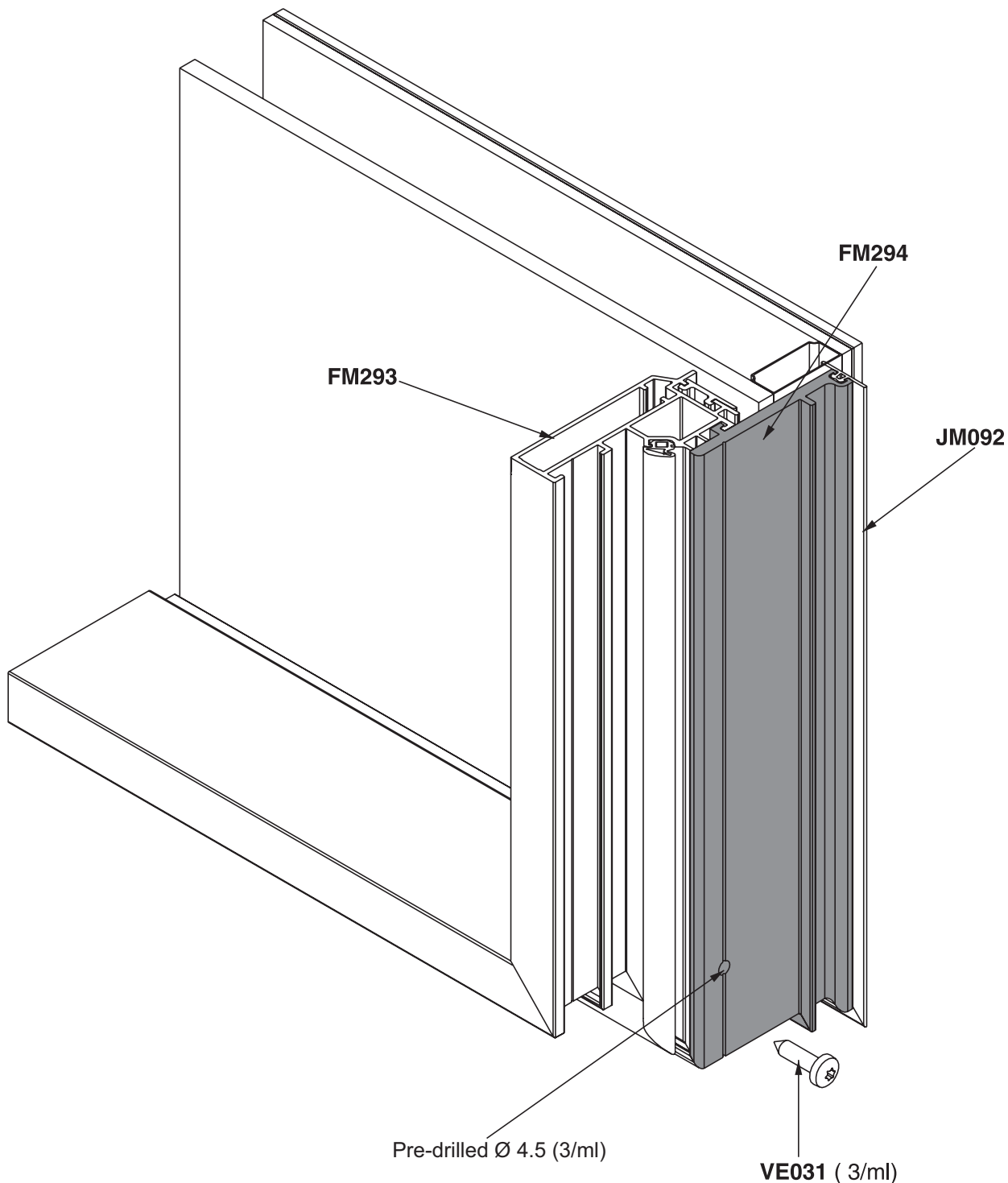
Inward outward corner : 0 to + 10° max.



Assemblies

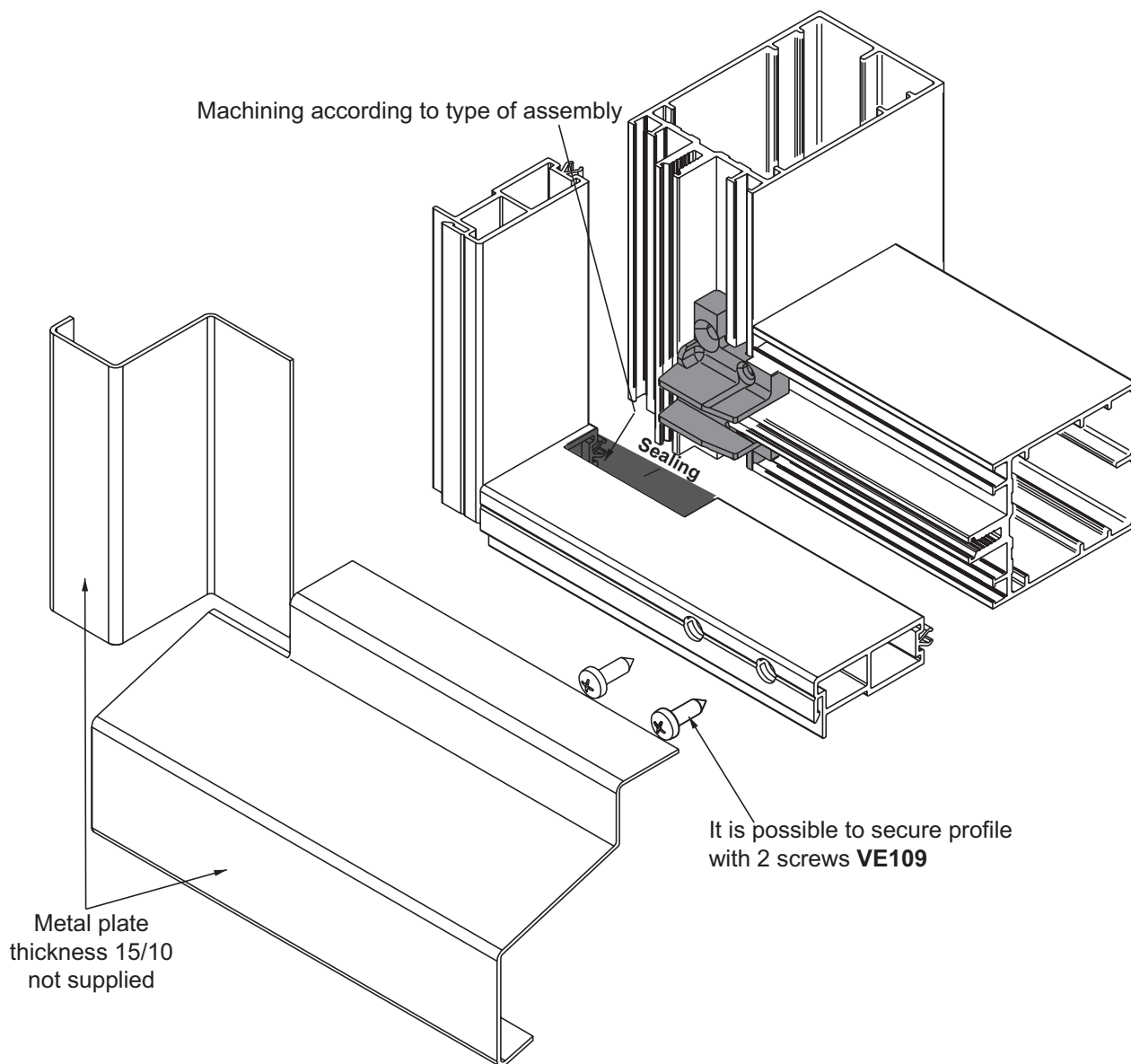
Mounting of PVC protection profile FM294

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Assemblies

Mounting the connection profile on masonry



TOOLS

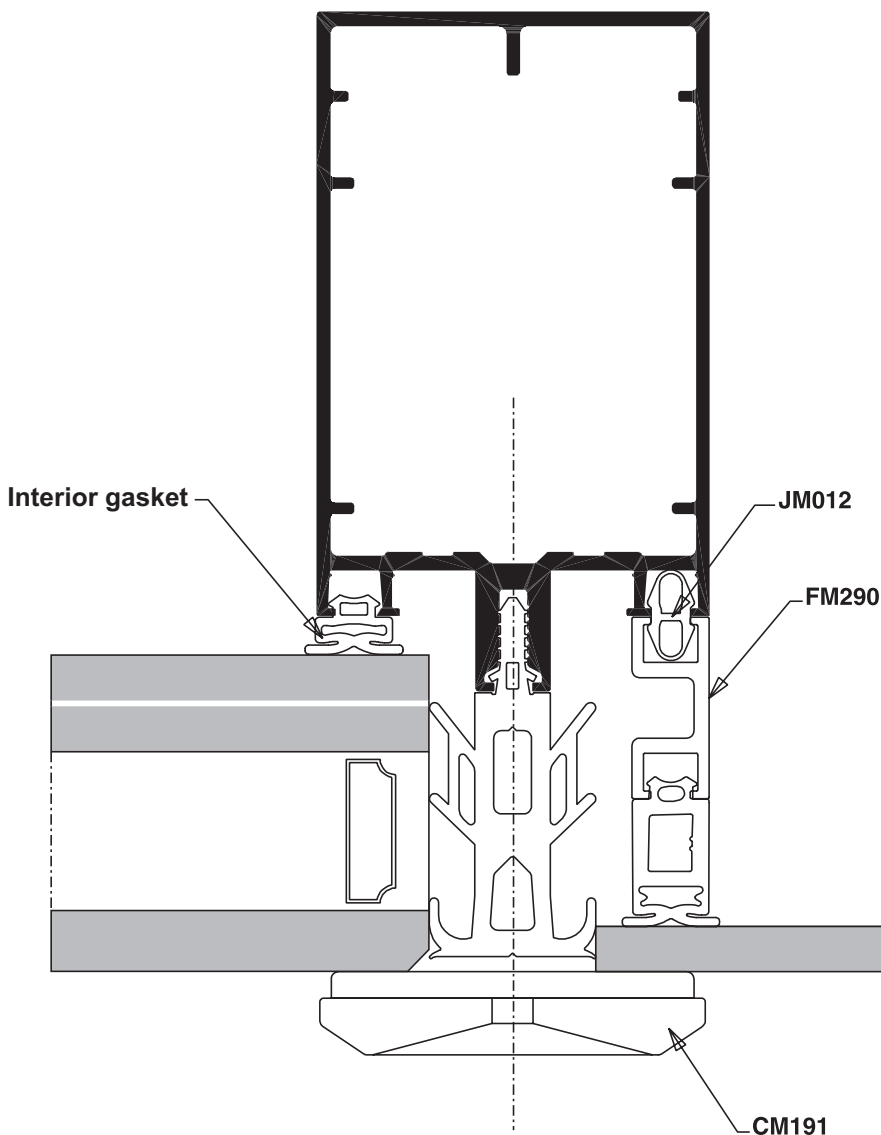
	Torx 20
	Hammer

To mount profile **YM006**, it is necessary to clip it at one of its ends and then on the length

gefff111

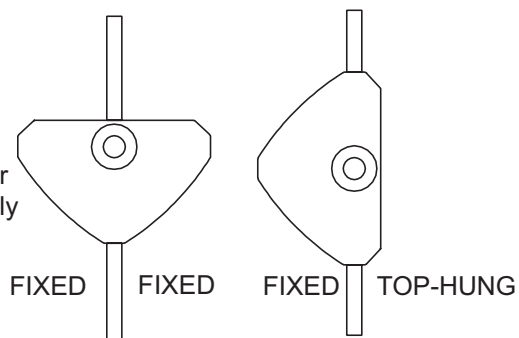
Assemblies

Implementation of presser CM191



Presser installation

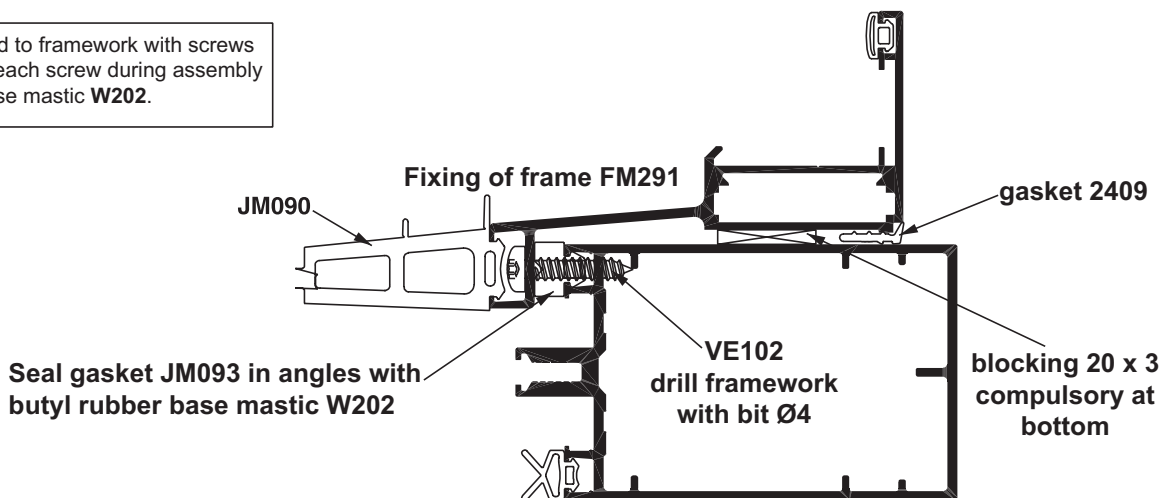
After installing the glass with horizontal locks, position presser **CM191** at mid height of free edge of glazing, screw moderately to immobilise part in rotation



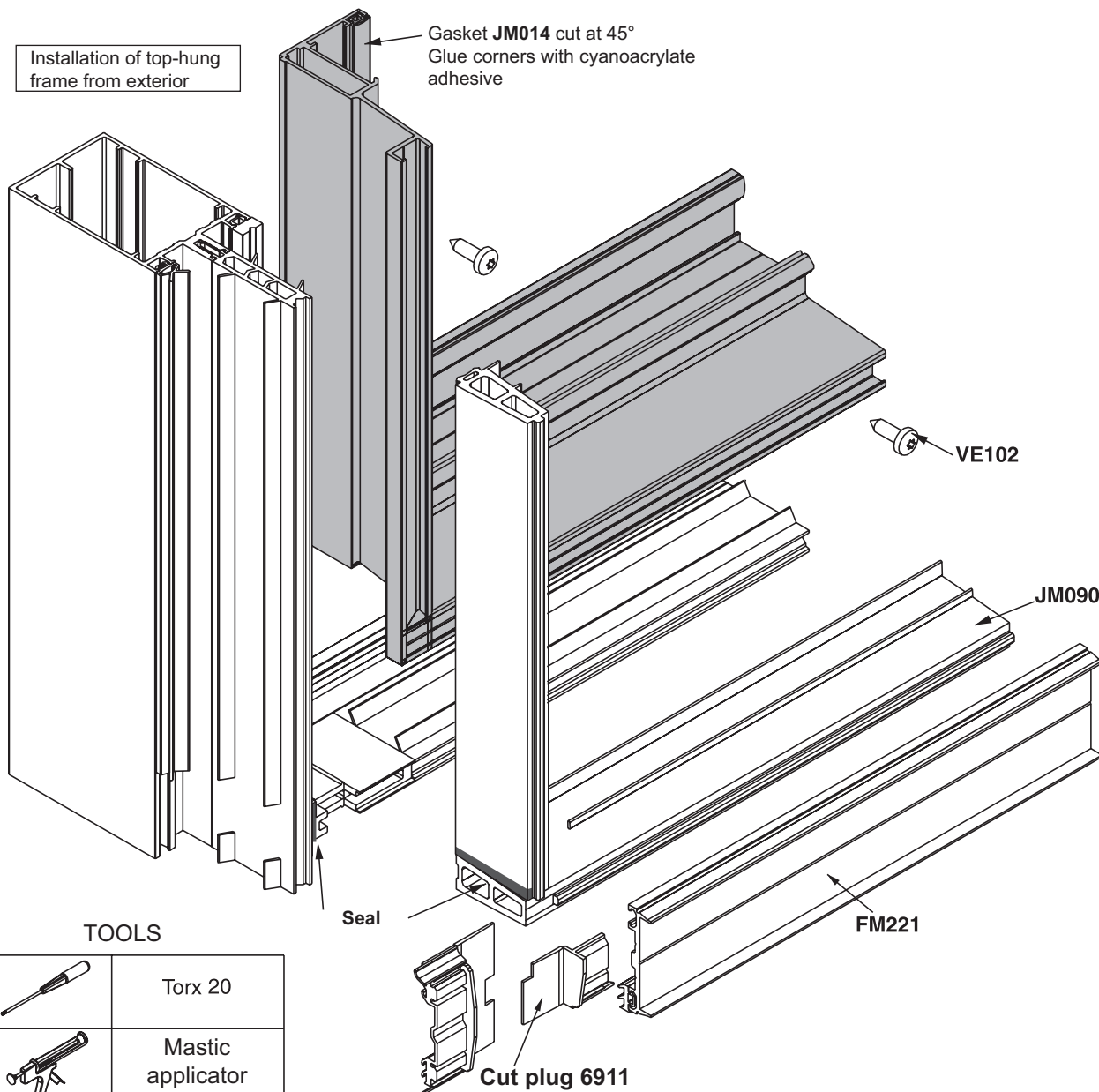
Assemblies

Assembly of top-hung frame



Fixed frame attached to framework with screws **VE102** (4/ml). Seal each screw during assembly with butyl rubber base mastic **W202**.



Installation of top-hung frame from exterior



TOOLS

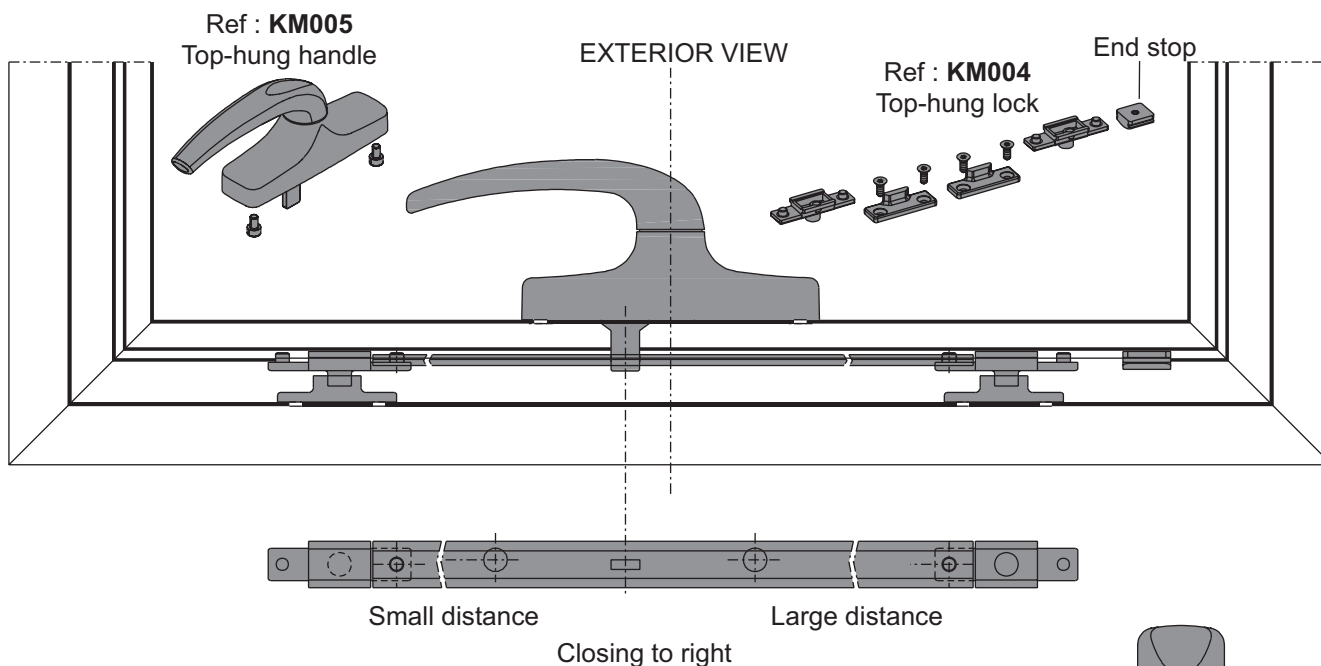
	Torx 20
	Mastic applicator

geff113

Assemblies

Mounting of top-hung lock

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For closing to left, reverse direction of distances

geffp042

ON SASH FRAME

- 1) Slide rod with locking points by chipping made at end of groove
- 2) Position rod so that the finger passes opposite sash machining
- 3) Place the handle in open position on sash and attach it with screws CHC
- 4) Handle still in open position, slide the end in the groove and immobilise it with pointed set screws at indicated distance

ON FIXED FRAME

- 1) Position and attach strikes and seal fixing screws

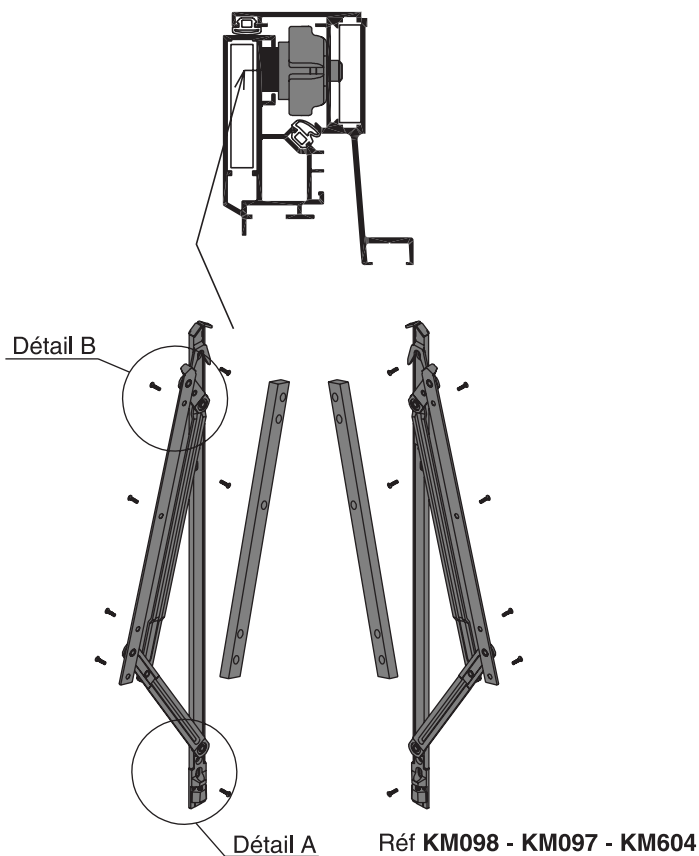
TOOLS

	TORX 20
	PHILLIPS N°2
	Grease
	Male key for hex No. 2.5
	Male key for hex No. 4
	Mastic applicator
	Mastic

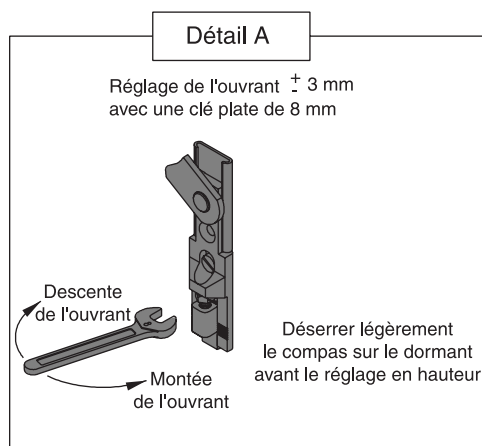
geff122

Assemblies

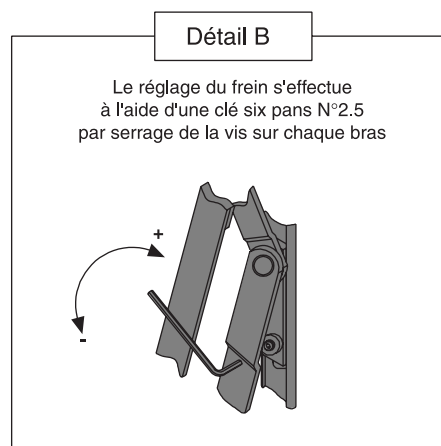
Mounting of top-hung limiter



geffp43



SUR CADRE DORMANT



SUR CADRE OUVRANT

- 1) Fixer les compas.
- 2) Présenter le cadre ouvrant, poser et immobiliser les compas dans la feuillure sans bloquer les vis de fixation.
- 3) Régler le positionnement de l'ouvrant suivant détail A, bloquer les vis de fixation.
- 4) Équilibrer le châssis suivant détail B.

OUTILLAGE

	Torx 20
	Clé plate N°8
	Clé mâle pour 6 pans creux N°2.5

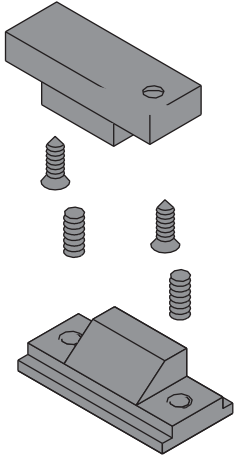
gefff114

Assemblies

Mounting the wedge and spacer

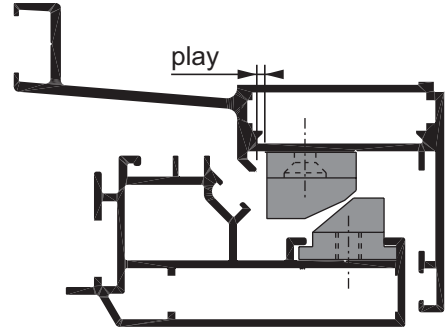
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MOUNTING OF TOP-HUNG WEDGE KM601



L < 950 : 1 wedge assembly to install in middle of top transom sash (FM292 - FM293) et dormant (FM291)

L > 950 : 2 or 3 wedge assemblies to install on top transoms, by strikes on bottom transom of frame with 1 assembly in centre if space between wedges is more than 950 mm

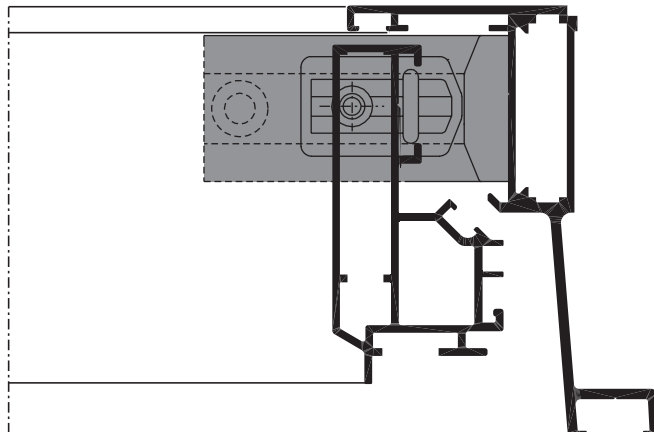
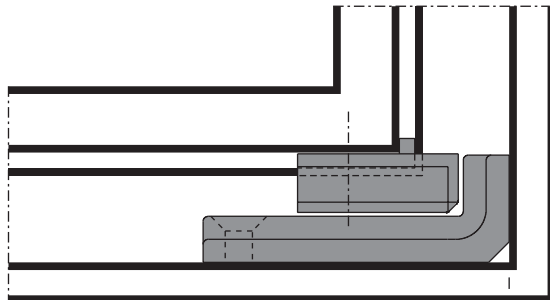
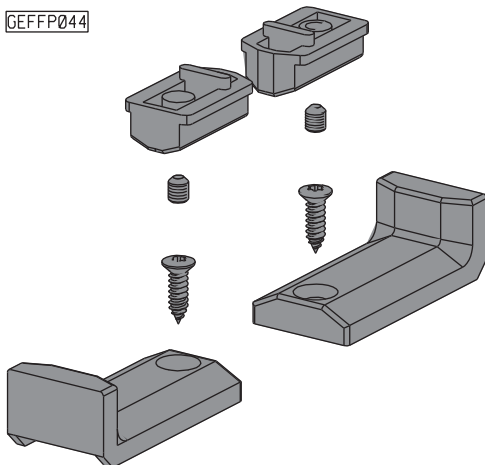


TOOLS

	Torx 20
	Male key for hex No. 2.5
	Bit Ø 4.2

SPACER MOUNTING KM600

GEFFP044

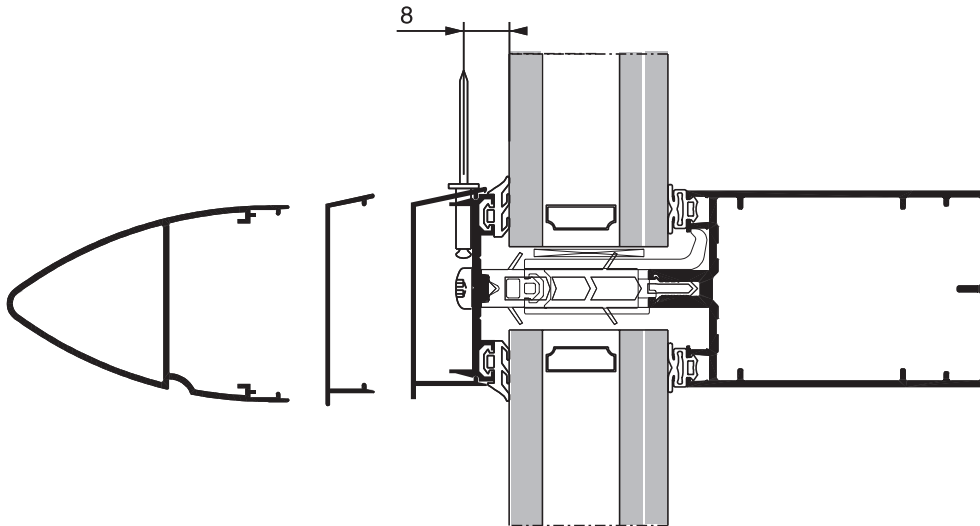


- 1) - Fit the frame semi-spacer on the lower web.
- 2) - Attach the frame semi-spacer by countersinking Ø 4.2.
- 3) - Slide the sash semi-spacer in the groove.

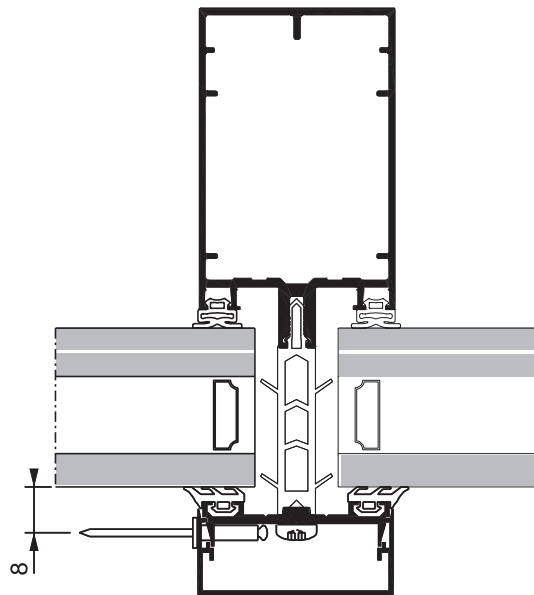
gefff115

Assemblies

Mounting of covers



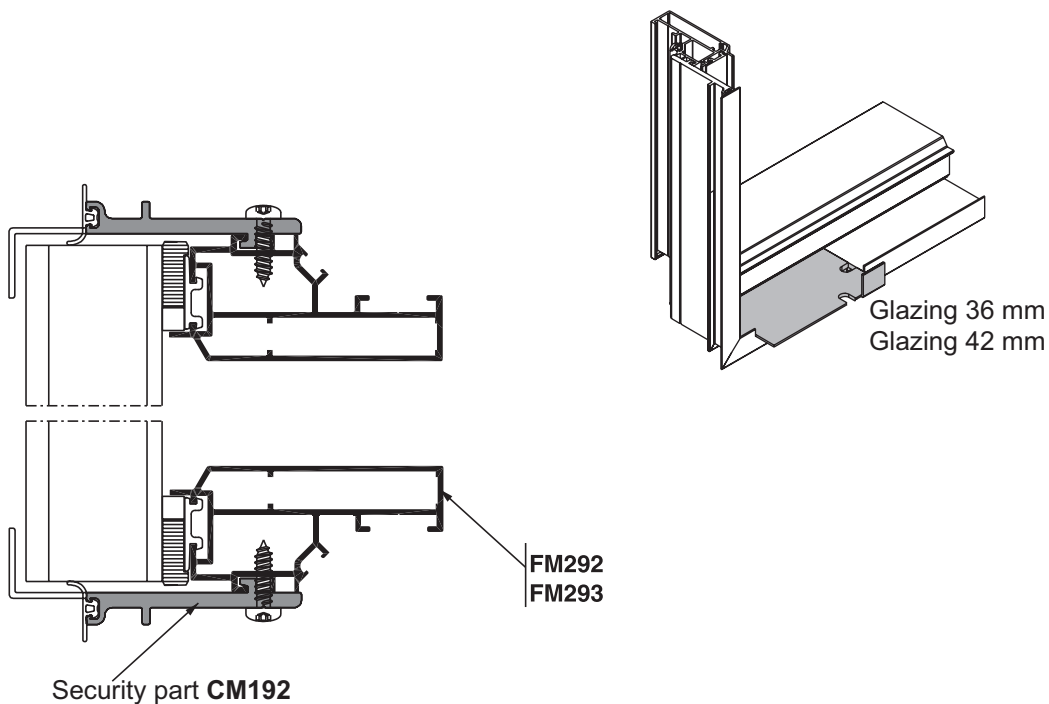
On each length of cover, drill the cover and lock to $\text{Ø}4$ according to indicated distance and crimp rivet **EM143**



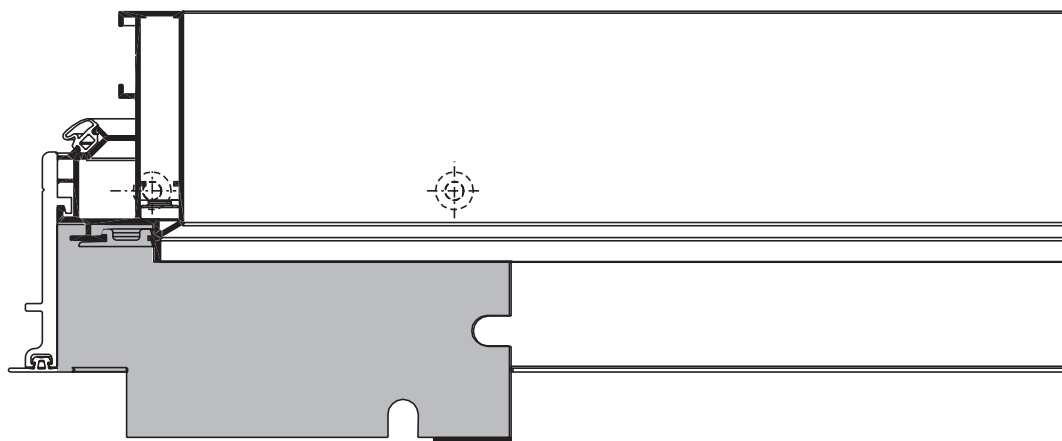
geff116

Assemblies

Positioning of security parts

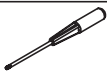



Seal screws with butyl mastic **W150**



Max weight per volume :
- profile **FM293** in 40 mm **70 kg**
- profile **FM292** in 36 mm **60 kg**

TOOLS

	Torx 25
	Mastic applicator

Glueing procedures

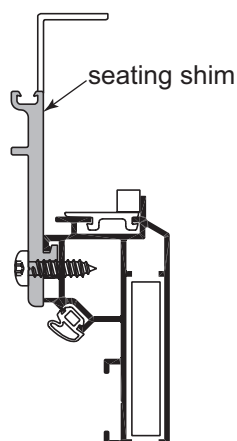
Procedure for glueing SSG sashes

Top-hung sash
exterior glueing

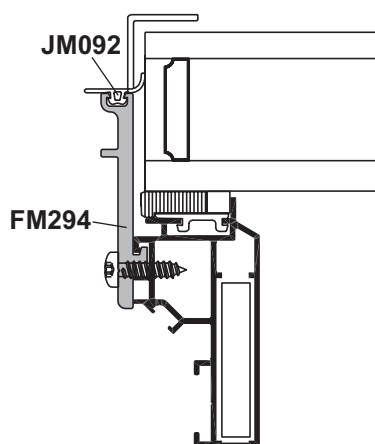


Slide the bar in the sash profile
Cut the tab and hold the bar with adhesive
Carry out all the machinings on the profiles
Crimp the fixed frame and seal the sections

l'adhésif.



Equip the fixed frame with gaskets, accessories and seating parts
Place the spacer 6 x 6 to end stop on sash
Position the glass using glazing shims
Remove shim supports and PVC profile **FM294**



Apply single or two-component mastic
Glue and scrape mastic, leave to cure
Clean the section of glazing

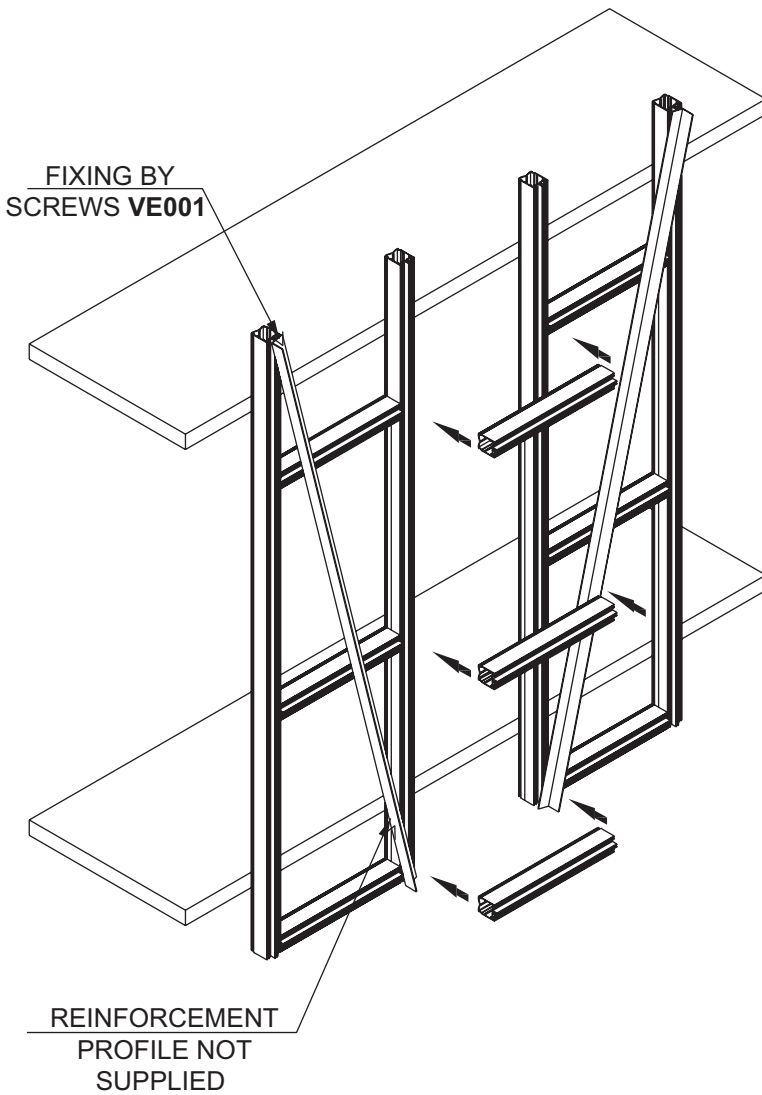
Replace the PVC profile **FM294** and gasket **JM092**
Install the supports and glazing shims
Fit the security parts
Make the interior flashing on bottom transom

geff118

Miscellaneous

Precautions for transportation

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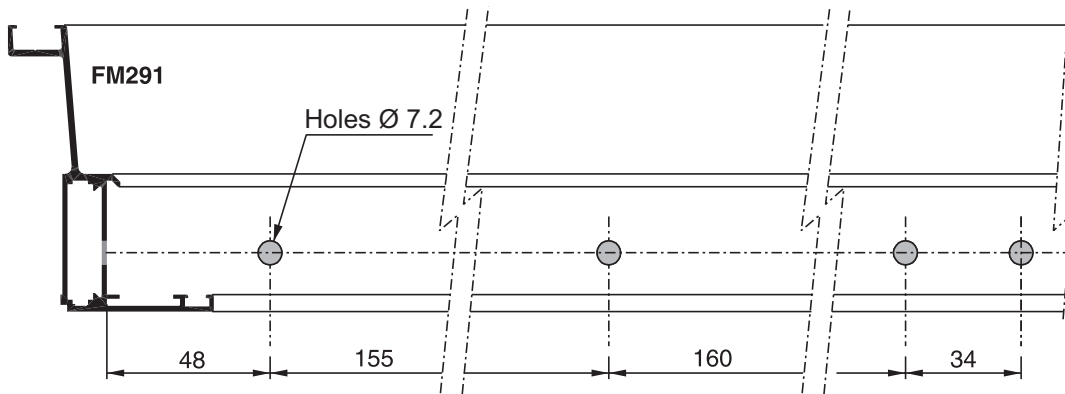
If prefabricated ladders used with connector **EM070** front installation or advance installation stud, it must be immobilised using reinforcement profile (not TECHNICAL supply) in triangulation with ladder

Tools

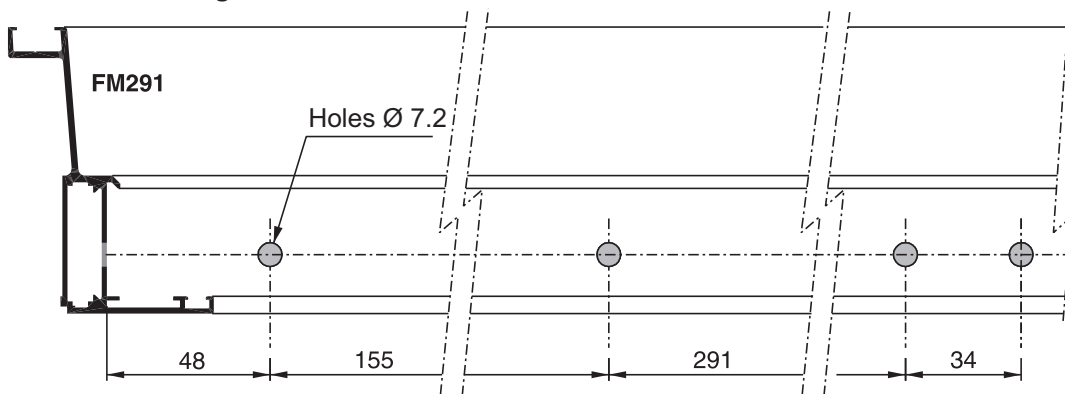
Drill jig OM135 for frame top-hung limiter



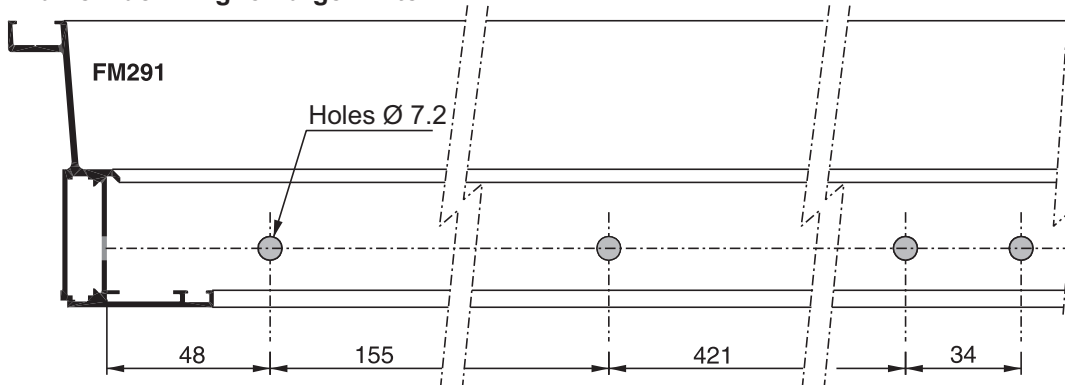
Frame machining for small limiter :



Frame machining for medium limiter :



Frame machining for large limiter :



geff124

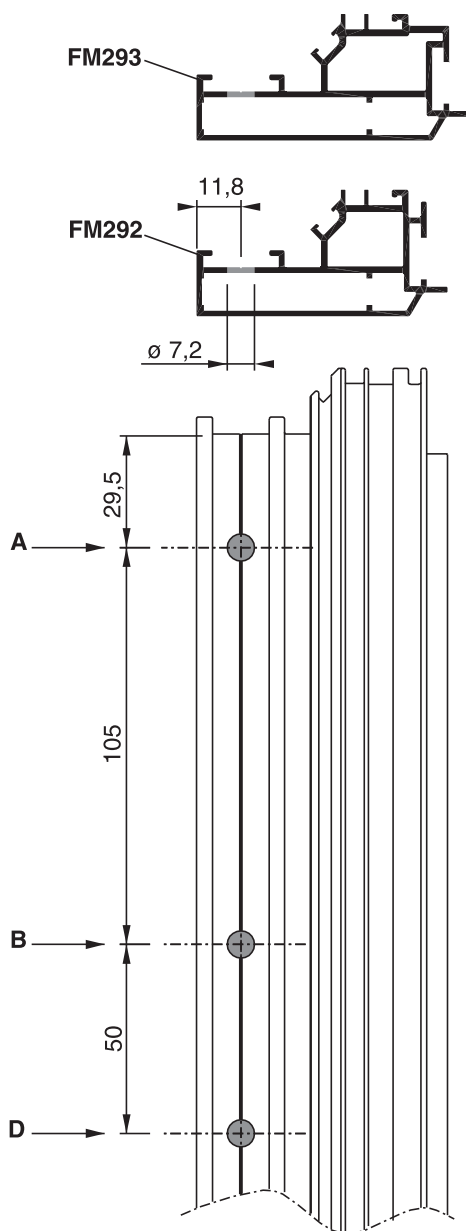
Tools

Drill jig OM137 for sash top-hung limiter

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Sash drilling for small limiter :



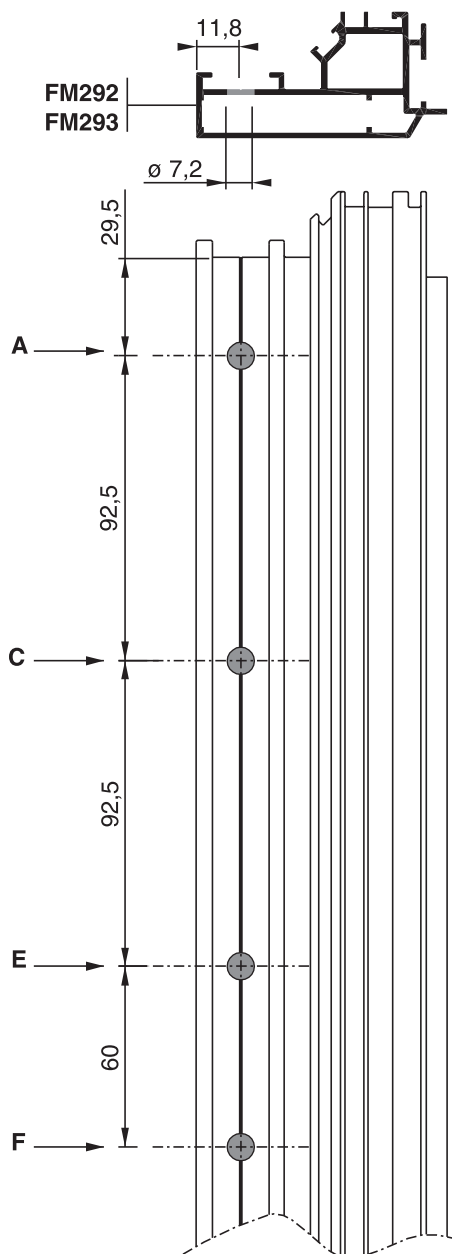
geff125

Tools

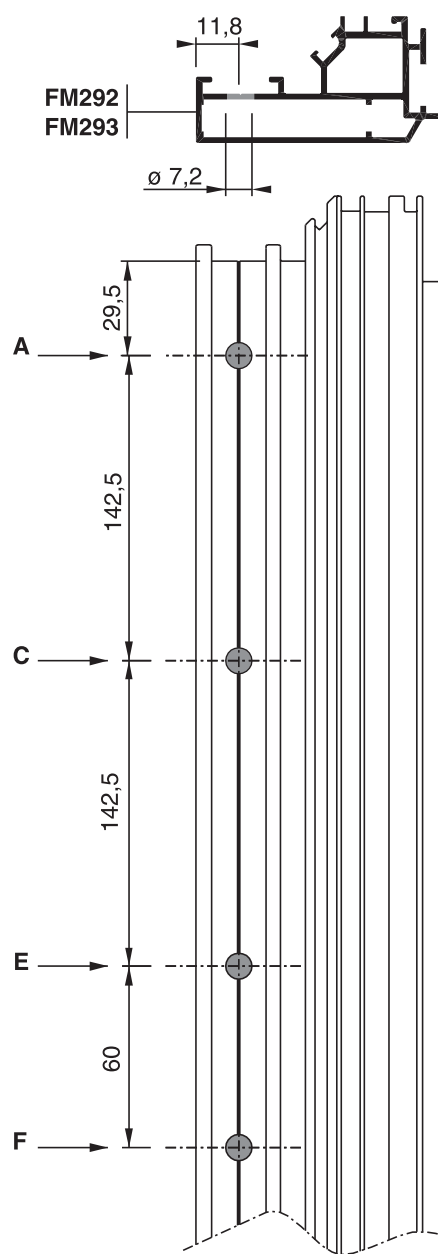
Drill jig OM137 for sash top-hung limiter



Sash drilling for medium limiter



Sash drilling for large limiter



geff126

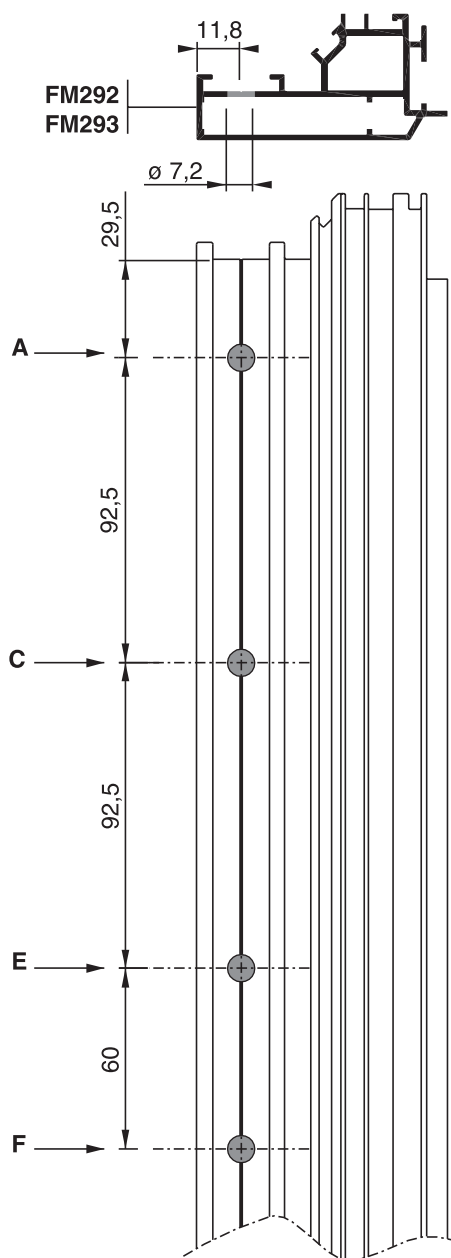
Tools

Drill jig OM137 for sash top-hung limiter

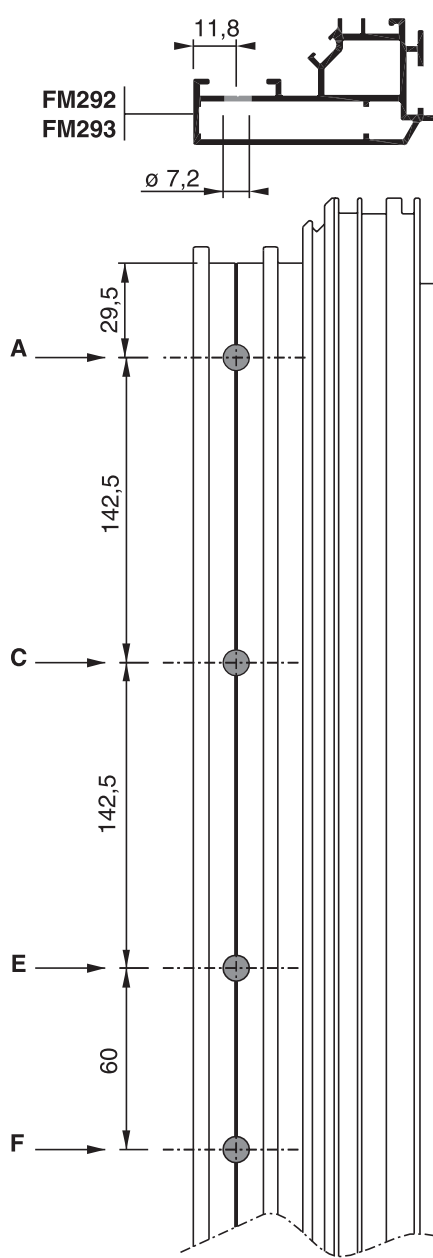
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Sash drilling for medium limiter



Sash drilling for large limiter



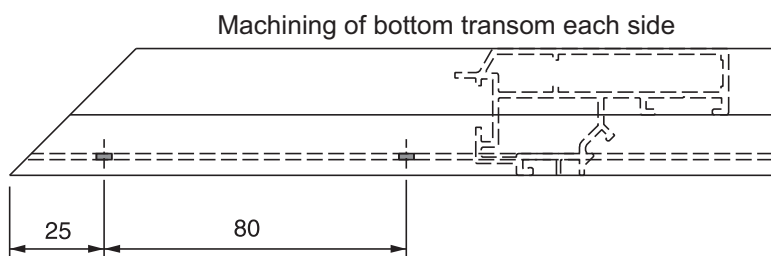
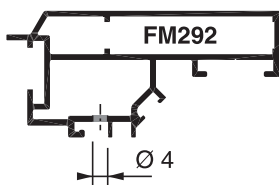
gefff126

Tools

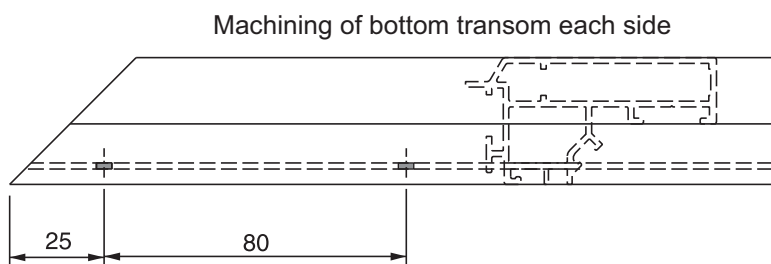
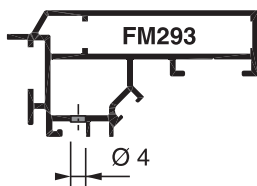
Drill jig OM139 for security part CM192



Machining for security part



OM139 Drill jig right/left reversible



gefff095



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