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Alumil SMARTIA

M78

Contents

Introduction

SMARTIA M78 is a cost efficient unitized curtain wall, which combines minimal aesthetics with structural robustness.
Its Structural Silicone Glazing construction offers maximum transparency at the external surface of the façade.
Modular units, including glazing panes, are prefabricated in workshop conditions and this results in a fast and cost-effective installation with minimum manpower and tooling requirements.
This construction mode, renders M78 an ideal system for high rise buildings where meeting demanding deadlines is a prerequisite.

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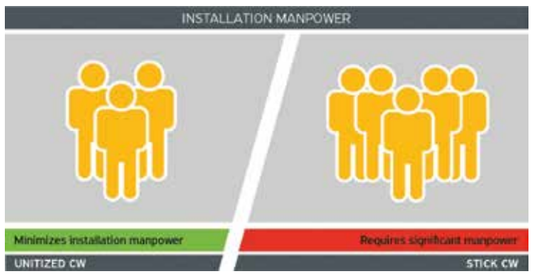
When and why a Unitized Curtain wall should be selected instead of a Stick curtain wall

Key factors that make a Unitized Curtain Wall a one-way option in a project are:



Synopsis of Characteristics

SMARTIA M78 is a unitized curtain wall system which offers a unique aesthetic effect, thanks to its structural silicone glazing that provides a top-quality finished product.

- Basic system width 78mm.
- Structurally bonded glazing, providing a flush exterior appearance.
- Various hinged typologies can be implemented: projected, parallel projected and all and turn windows.
- horizontal unit joint **12mm**.
- vertical unit joint **19mm**.
- stack joint height **92mm**.
- 3 levels of sealing.
- Concealed drainage.
- Certified performances by IFT.
- Glazing from 24 up to 46mm.

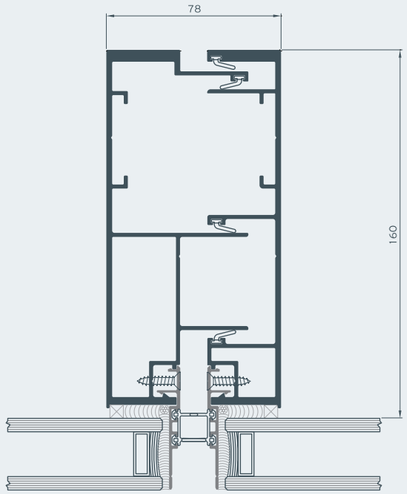
Technical characterisitics

Visible	**78mm**
Mullion depth	**160mm**
Transom width	**160mm**
Mullion moments of Inertia	**I_x=643cm⁴, I_y=46cm⁴**
Transom moments of Inertia	**I_x=161cm⁴ I_y=568cm⁴**
Maximum dimensions WxH	**1500x3500 mm**

System's Features

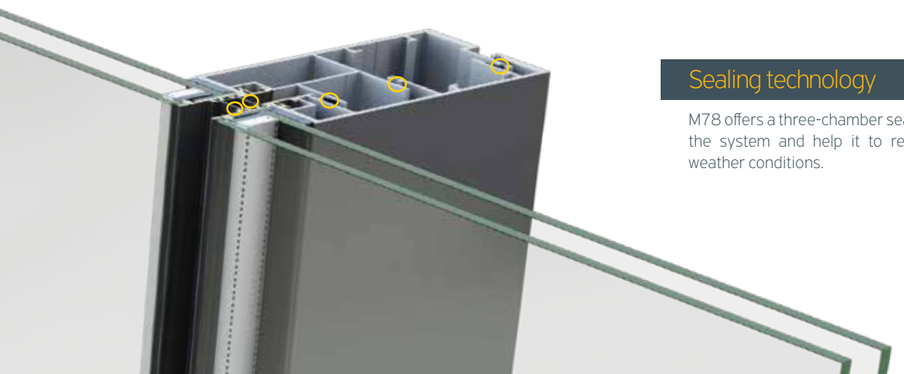
Design Aesthetics

By using Structural Silicone Glazing, a continuous glass appearance is given to the external surface of the façade, providing an unobstructed view, and maximizing the natural light in the interior.
Furthermore, sightlines of 78mm width and 160mm depth, render M78 ideal for buildings with transparency and minimal interior appearance requirements.



Ease of fabrication

The assembly of profiles is completed by 90 degrees connection, increasing production speed with no need of any additional accessories and equipment. Since fabrication procedure is very simple, no skilled manpower is required.
Finally, the connections are sealed with silicone – and they could easily "re-seal" at any time of production or afterwards.

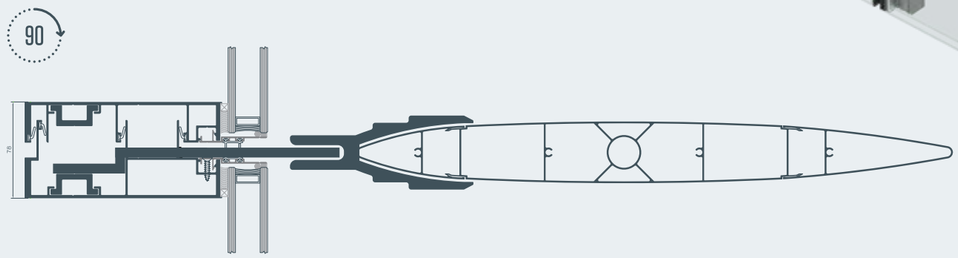


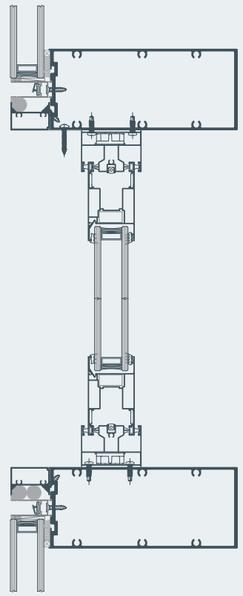
Sealing technology

M78 offers a three-chamber sealing - using five gaskets – that reinforce the system and help it to remain practically unaffected by heavy weather conditions.

Typologies and special solutions

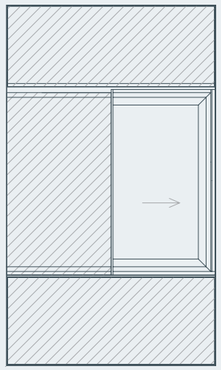
The system provides a wide range of typologies and special solutions.Apart from fixed units, the system also offers solutions that include units with opening element such as projected windows, parallel projected windows, and hinged windows.
Furthermore, corner constructions can be easily done, as well as integration of aluminium louvres in front of the façade.

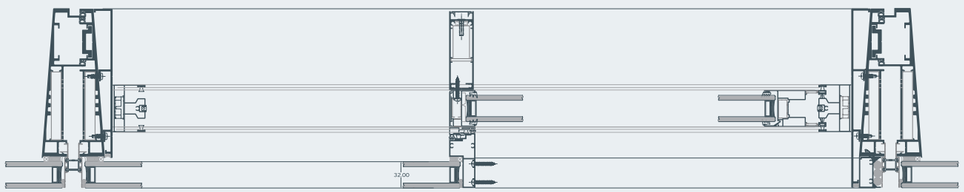




Customization

M78 design philosophy allows customized solutions when the specifications of a project require it.
System´s versality from static sufficiency to the possibility of integrating a sliding system, highlights the advanced features of M78, that make it an ideal choice even for the most demanding projects.





Installation modes

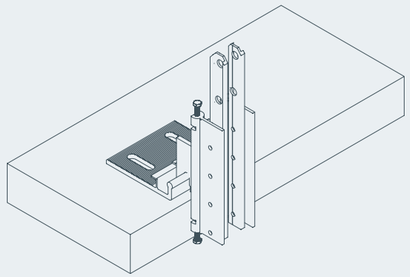
Considering that modules are totally prefabricated in factory, the only process that is conducted on site is the installation. This is very convinient in the case of space site limitations and when scaffolding is not an option. During the installation ,cranes are needed, in order to post the modules in the building envelope and with the use of brackets, these modules are fixed on building slabs.

Brackets are designed following the parameters below:

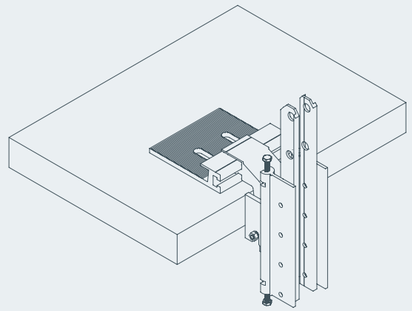
- Transfer the reaction from the unitized panels to the building main structure.
- Accommodate building movement.

There are three different versions of installation, depending on each project

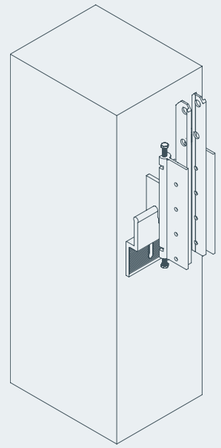
- The module is posted on slab, transom is needed



- The module is posted on slab, no transom is needed



- The module is posted on column



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Sections

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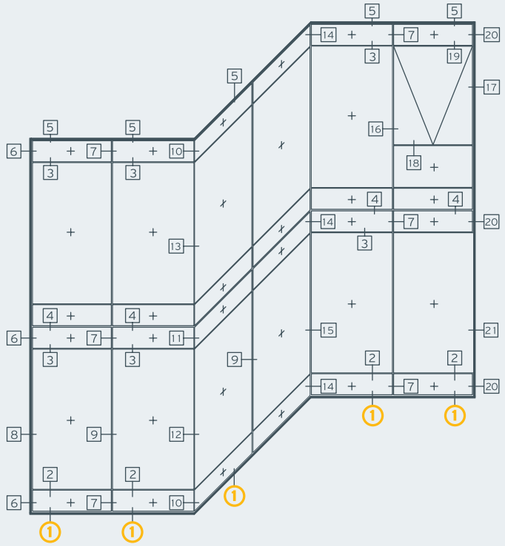

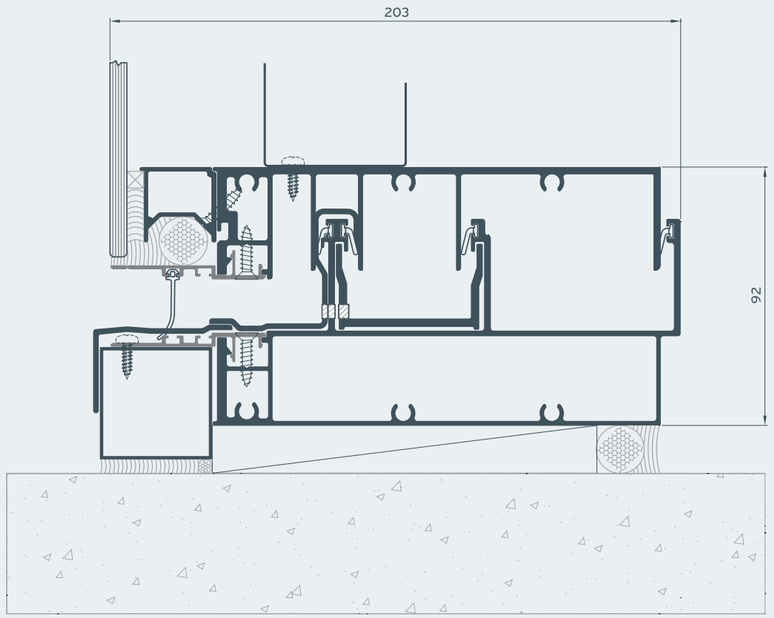

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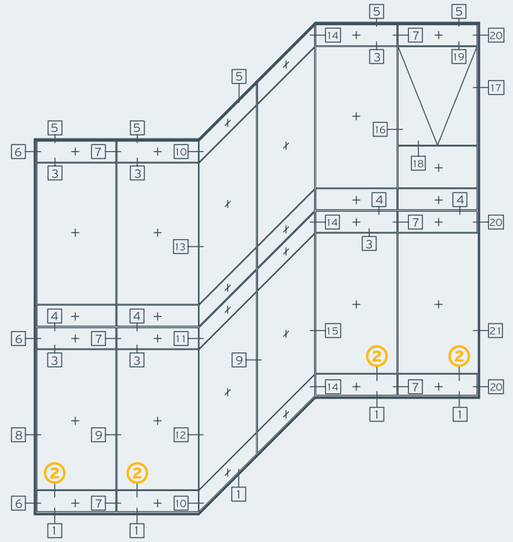

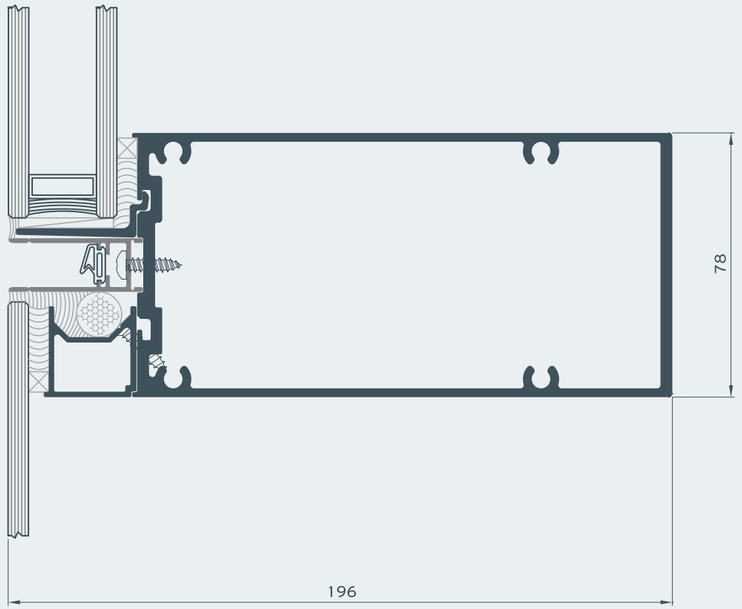

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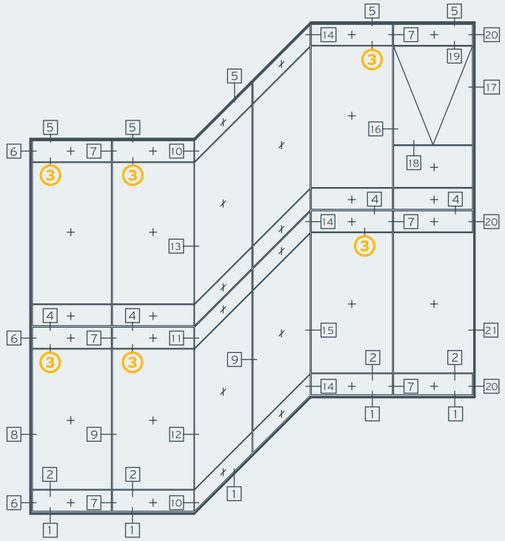

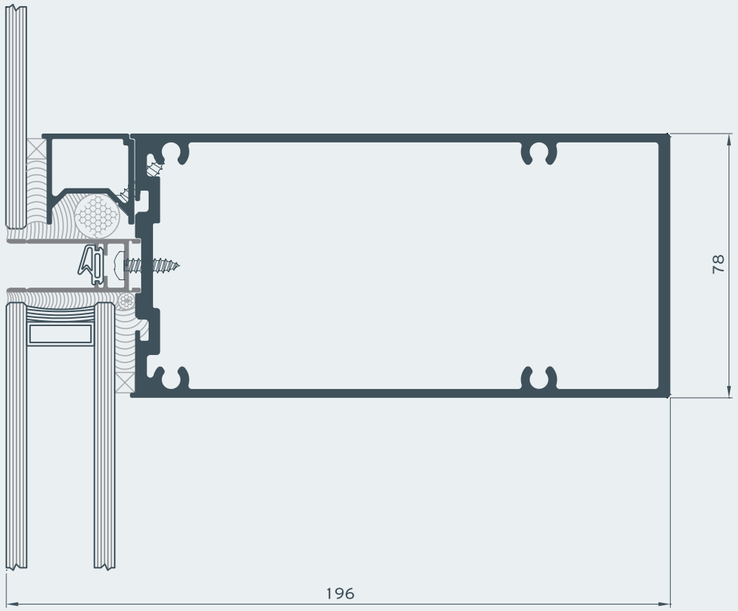

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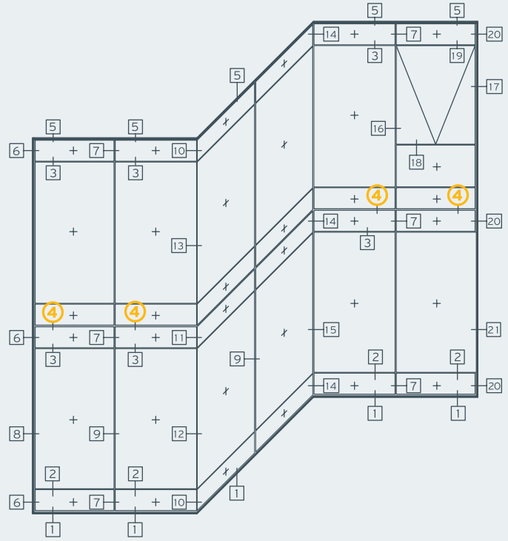

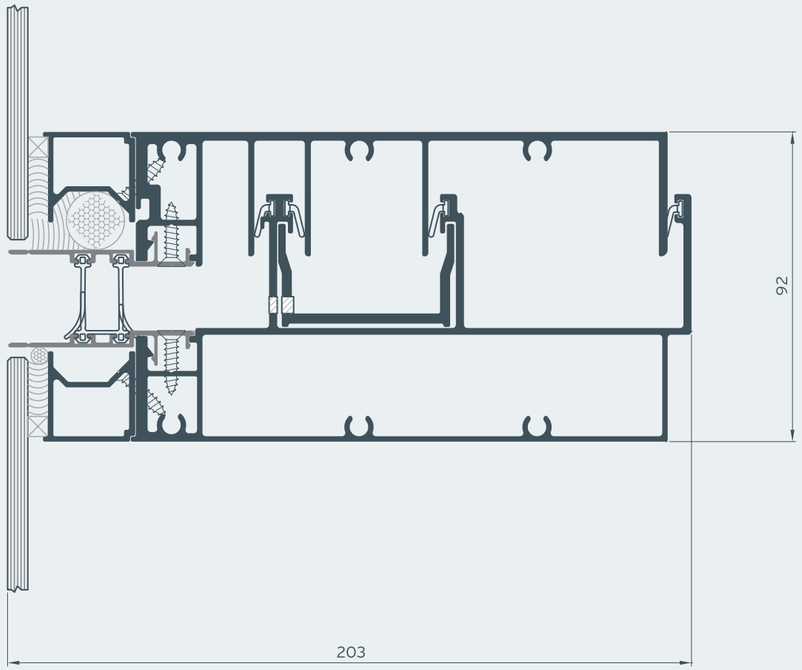

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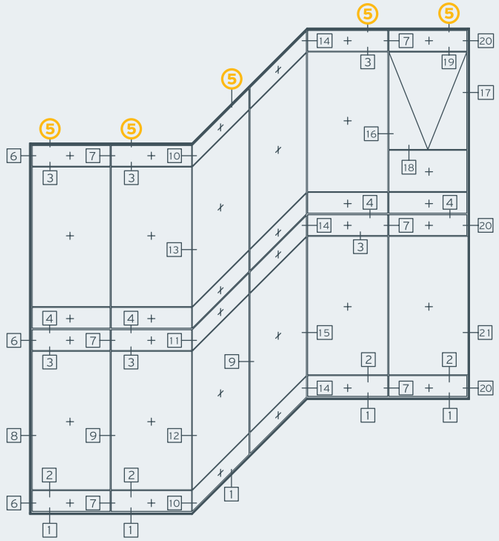

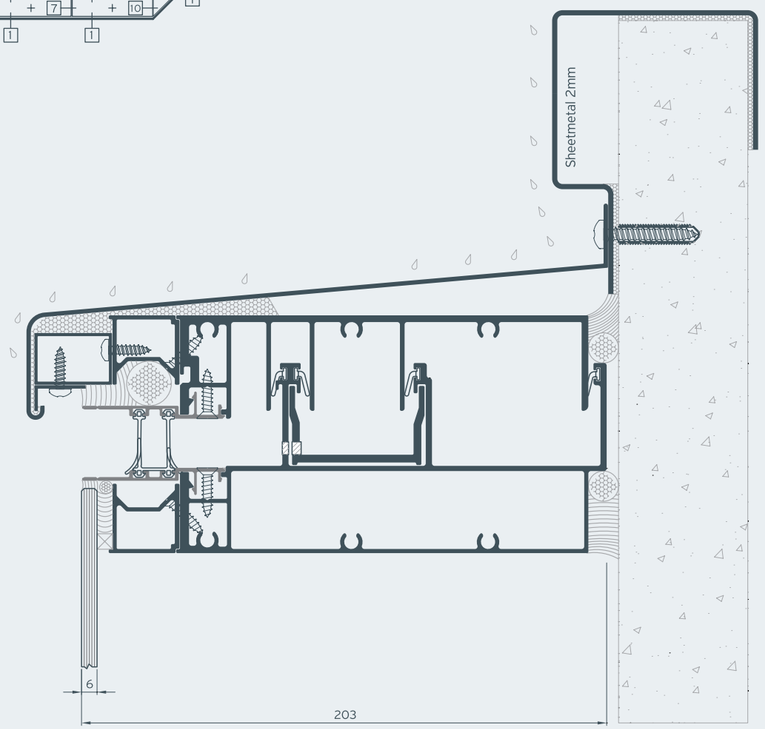

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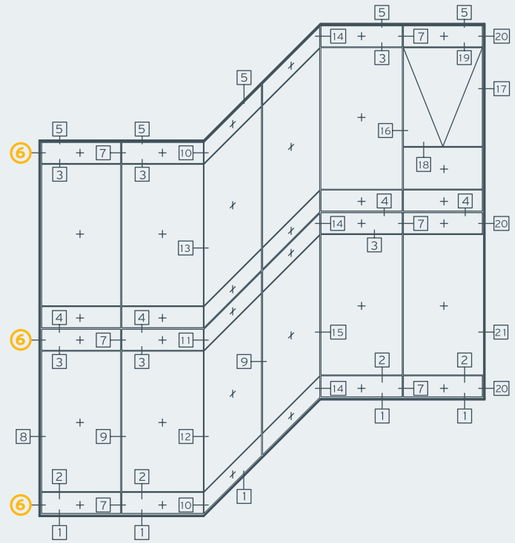

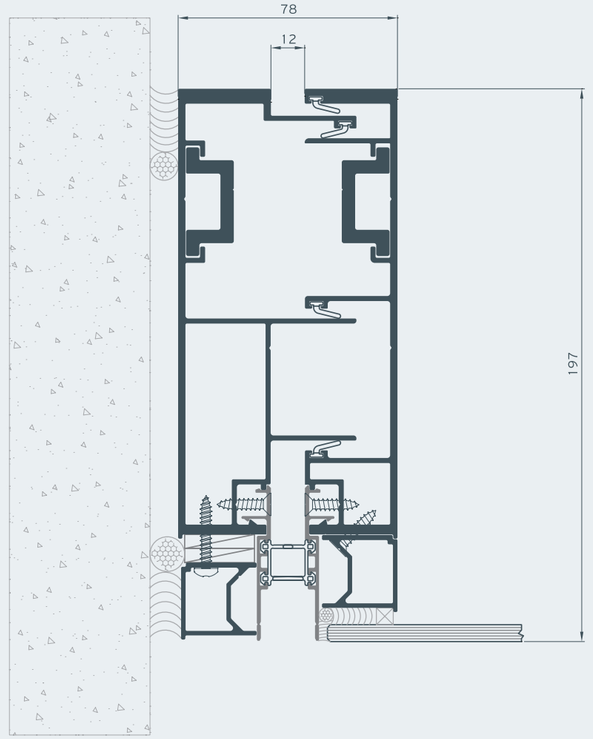

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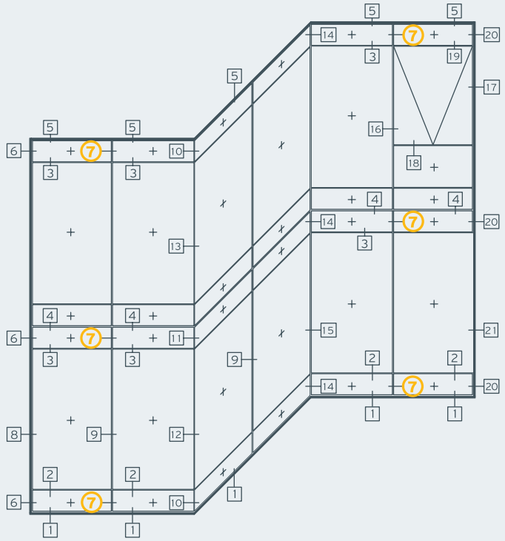

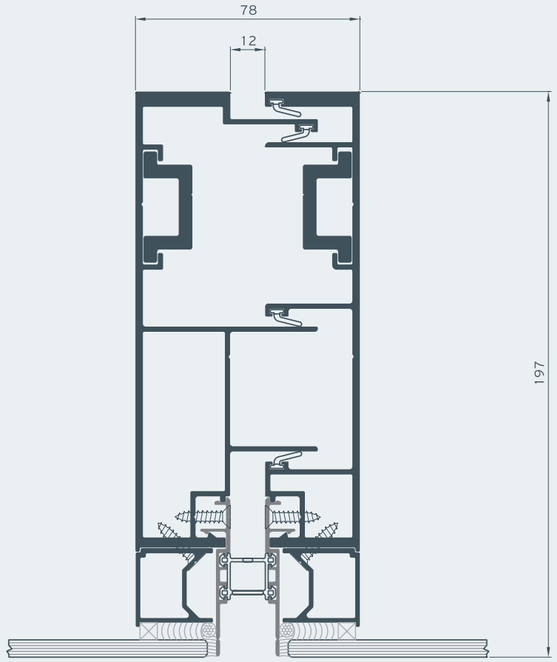

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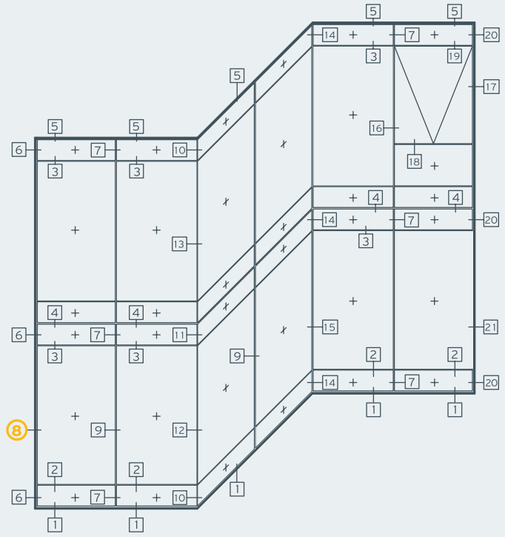

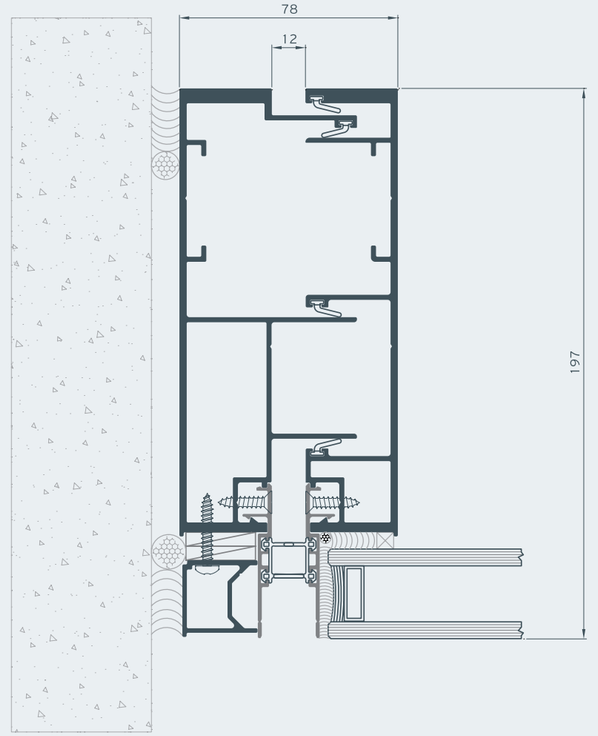

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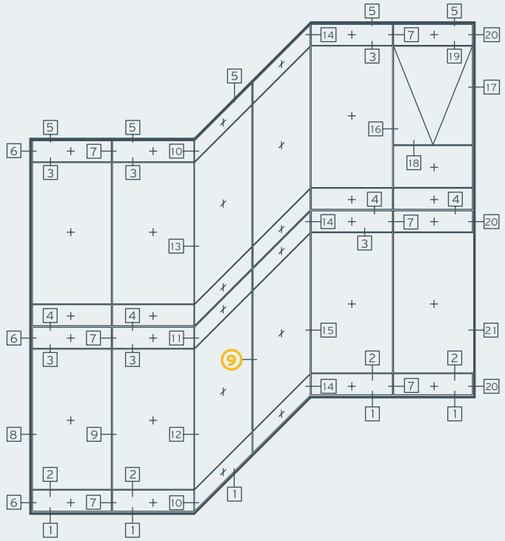

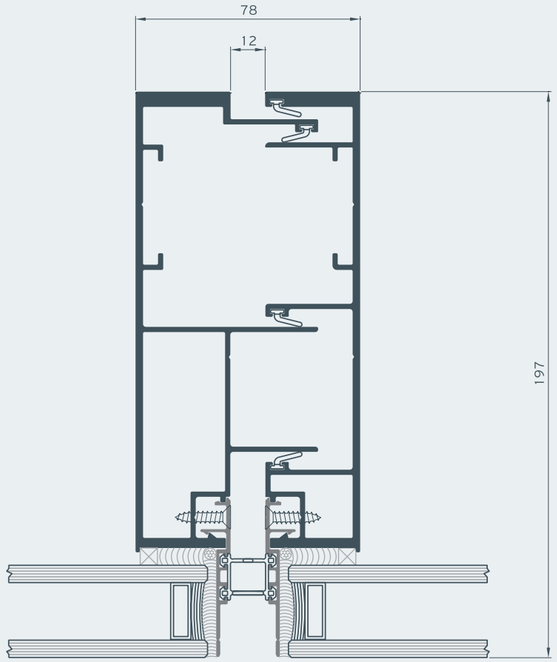

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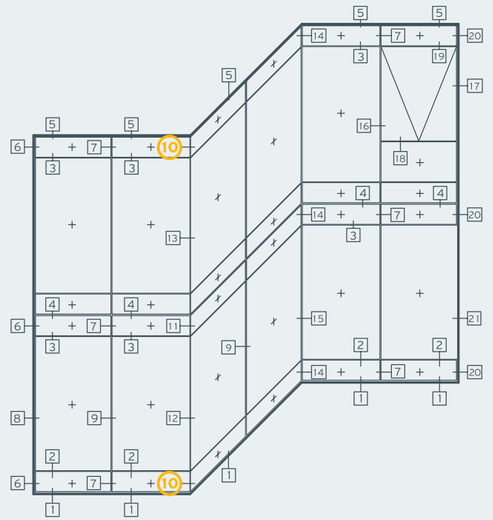

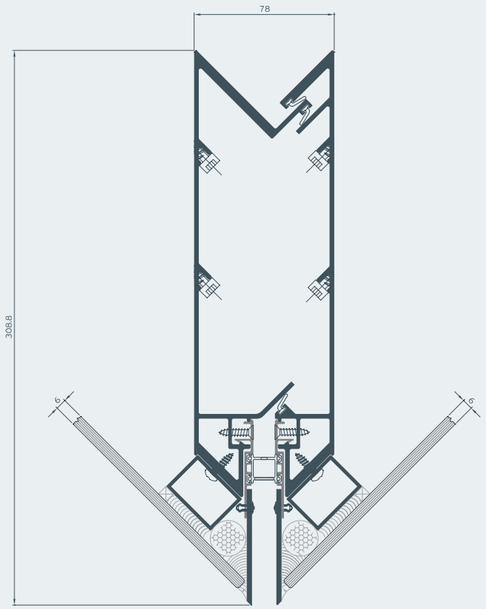

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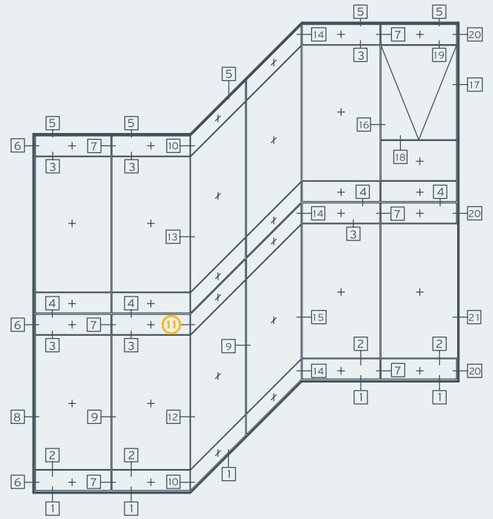

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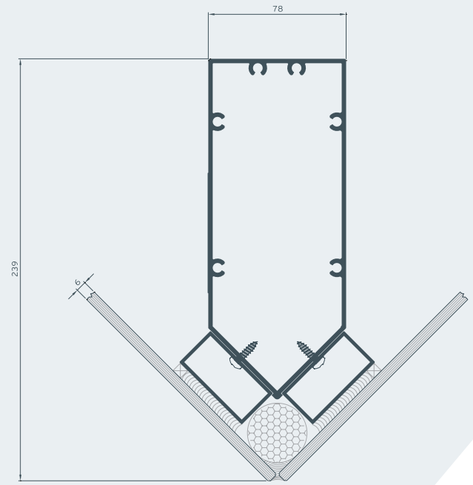

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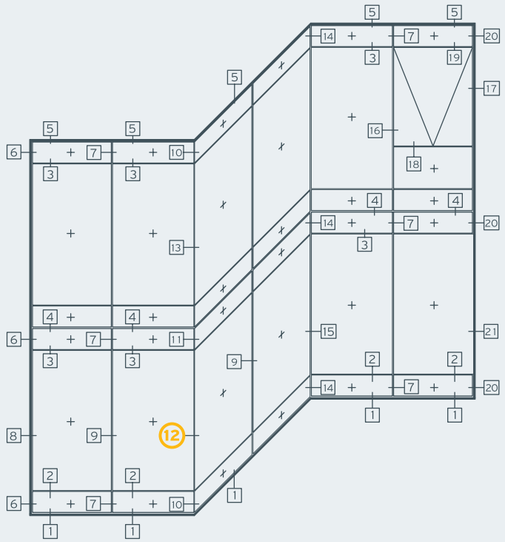

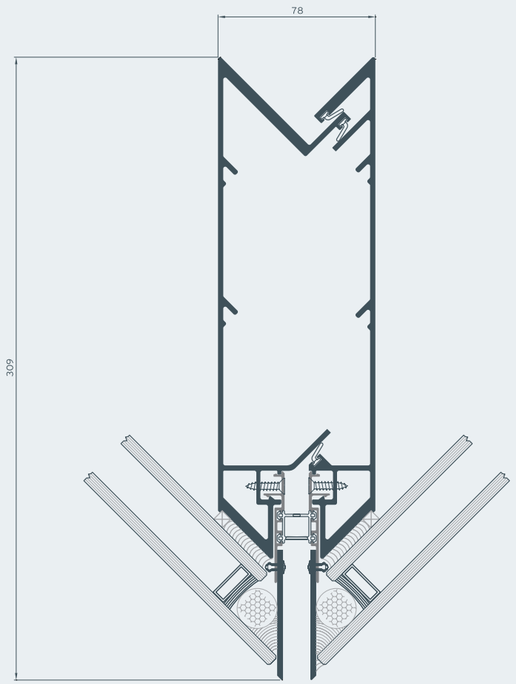

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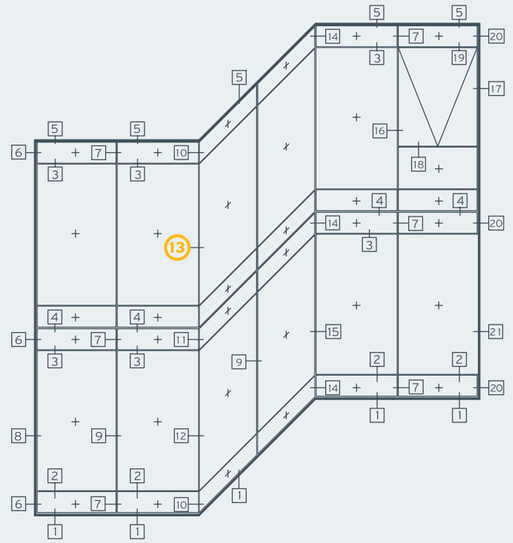

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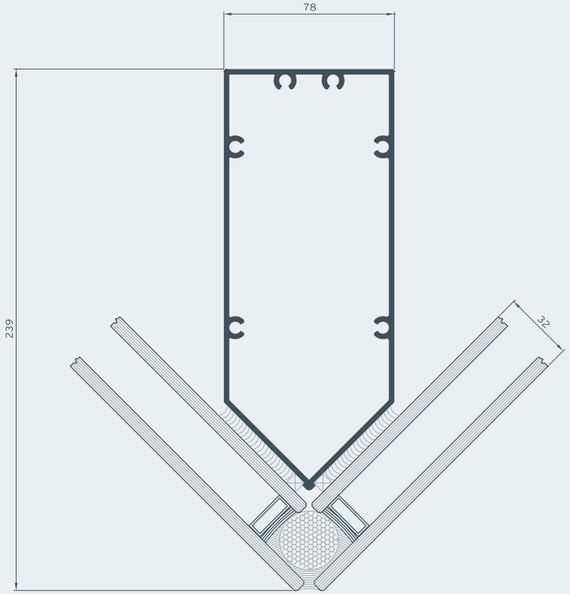

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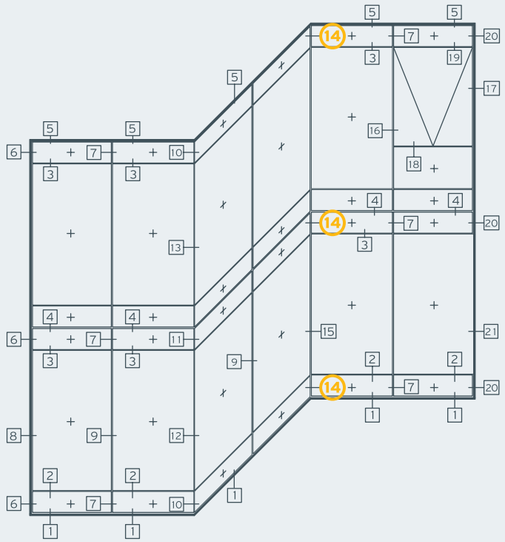

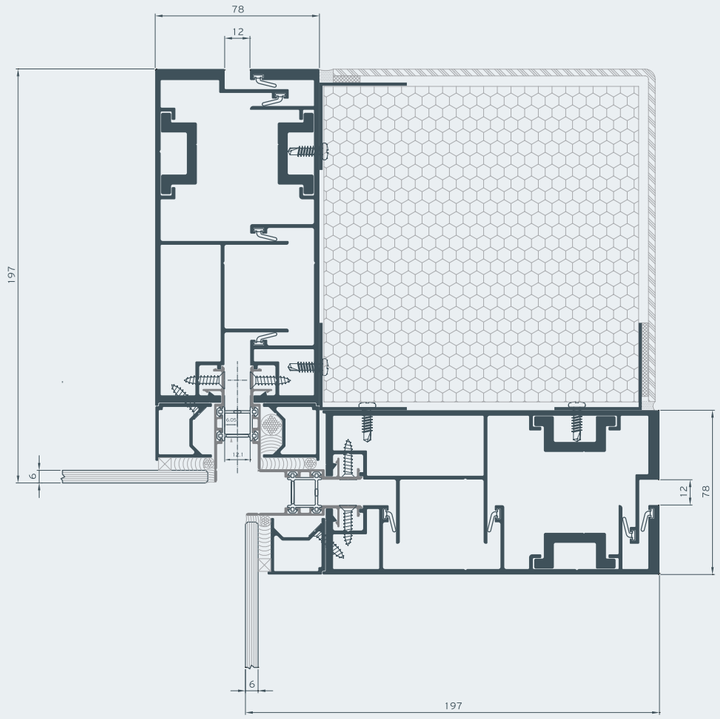

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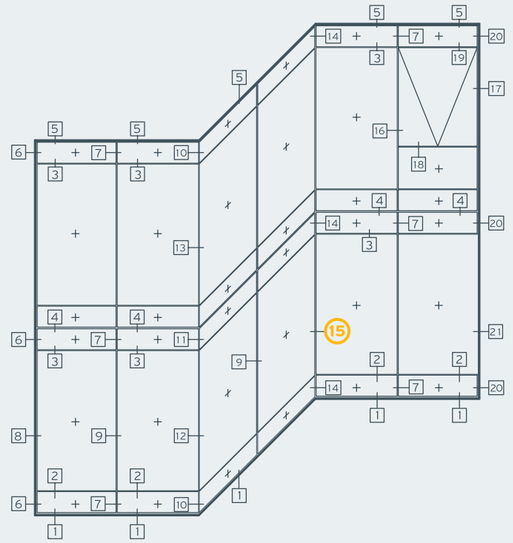

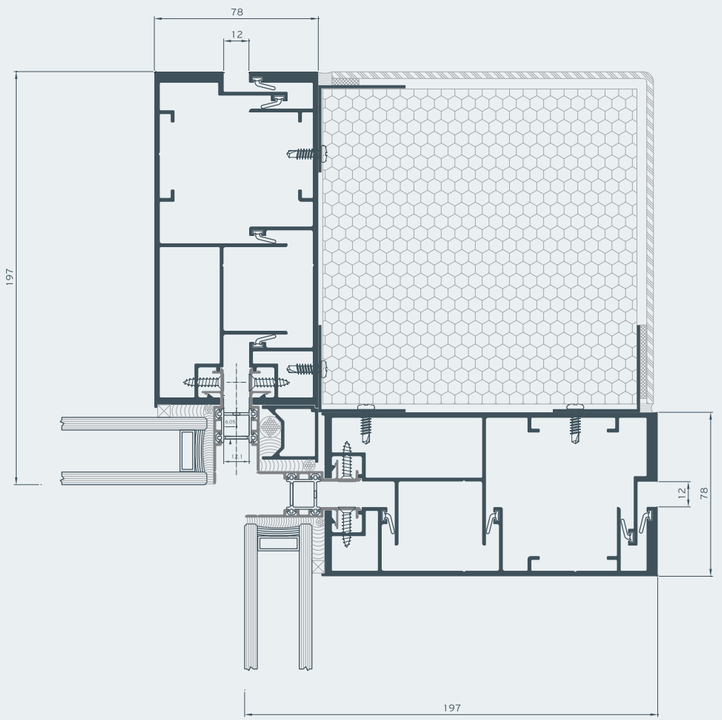

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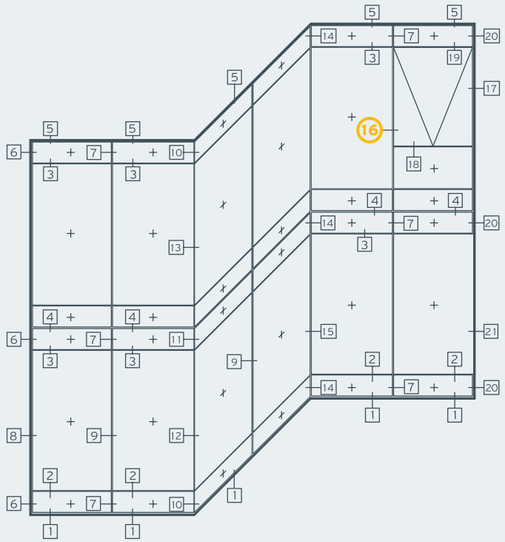

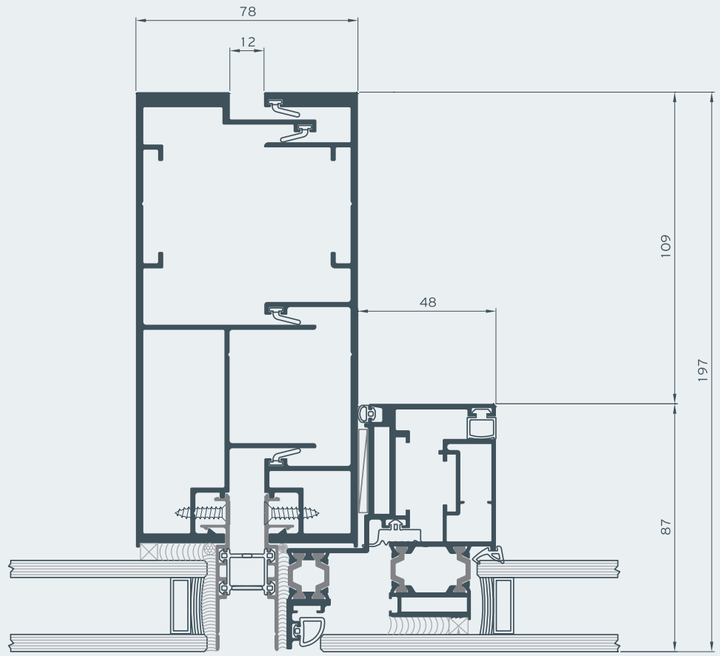

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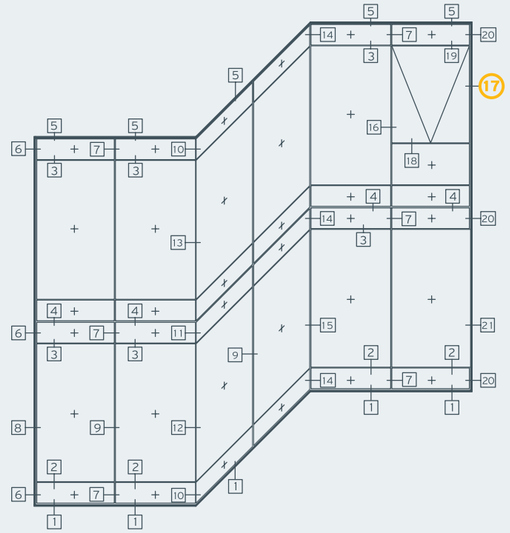

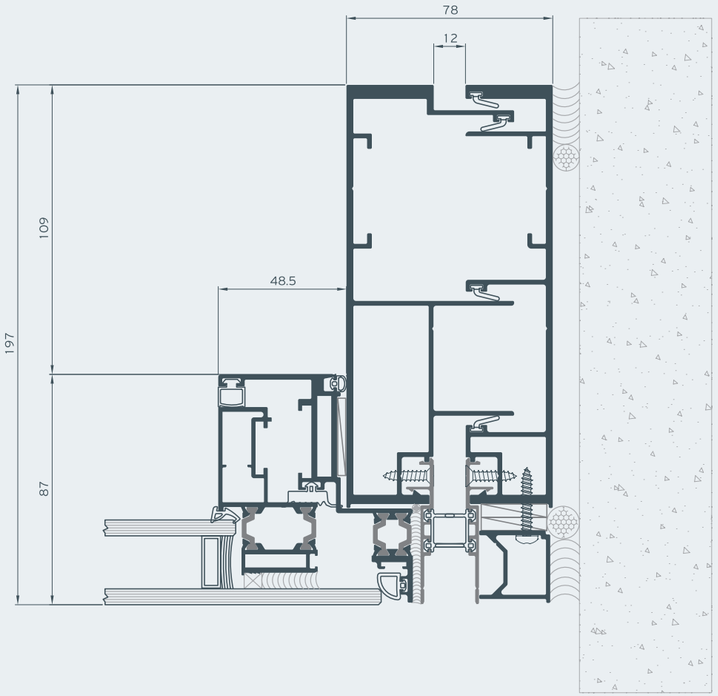

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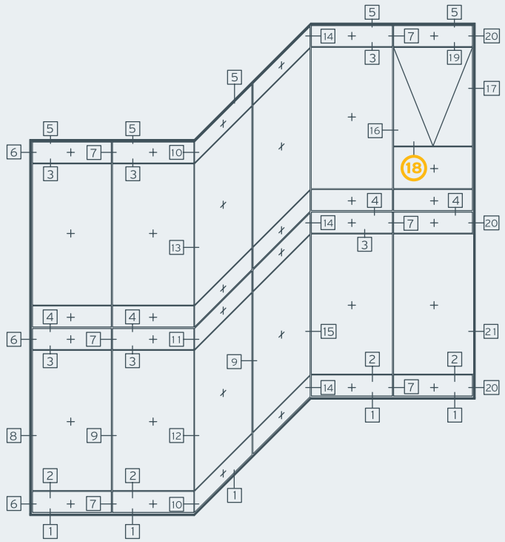

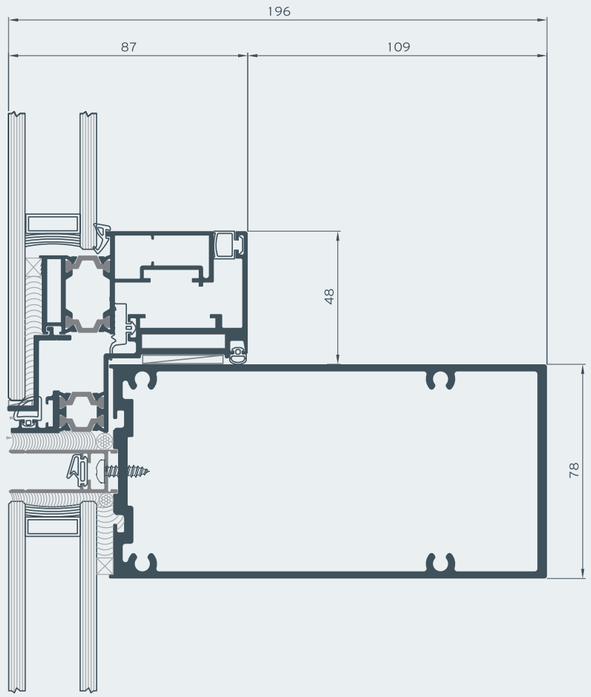

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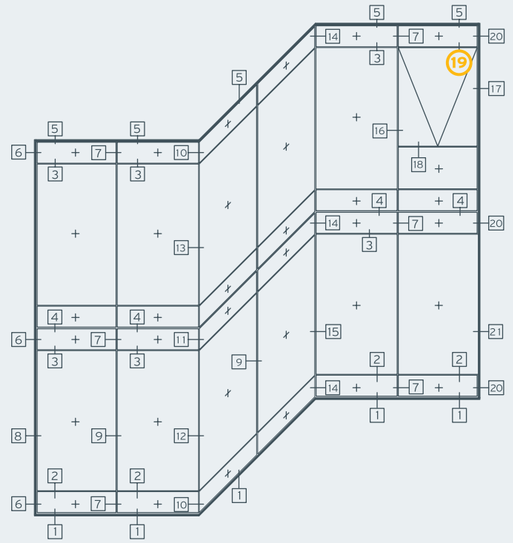

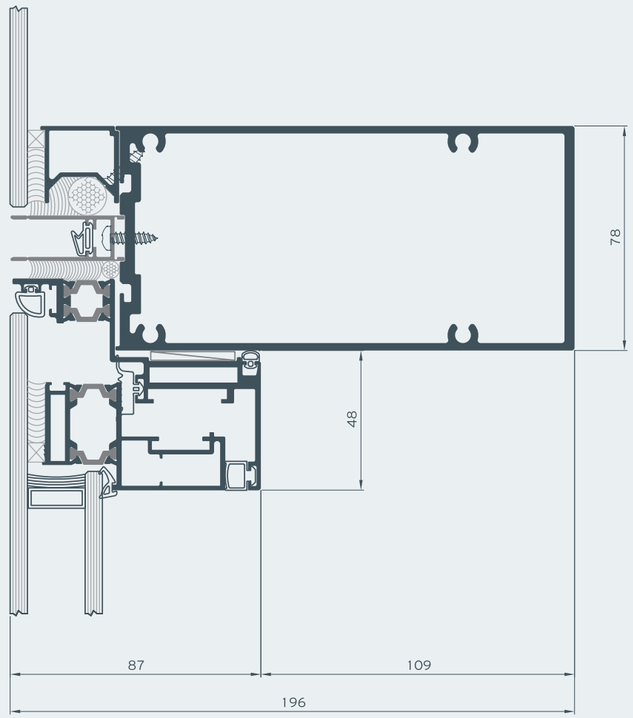

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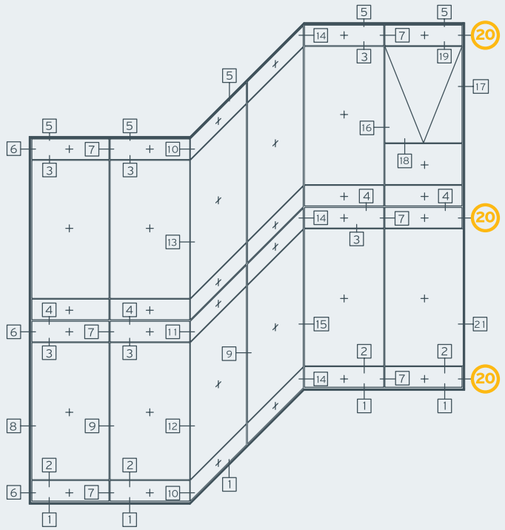

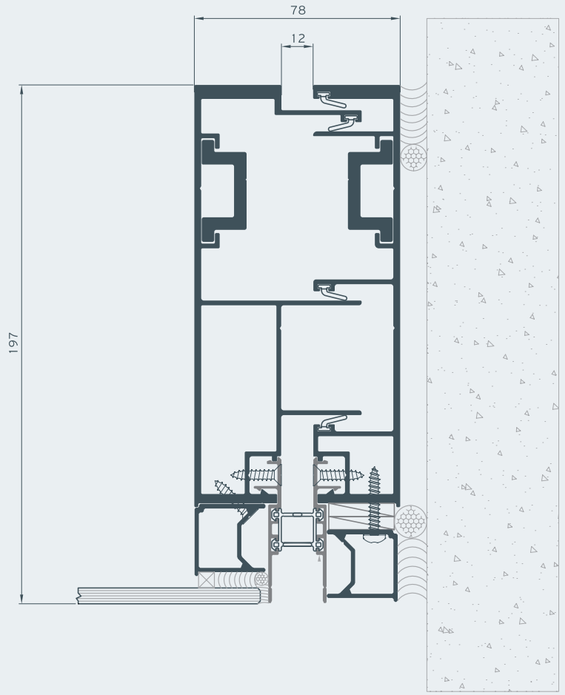

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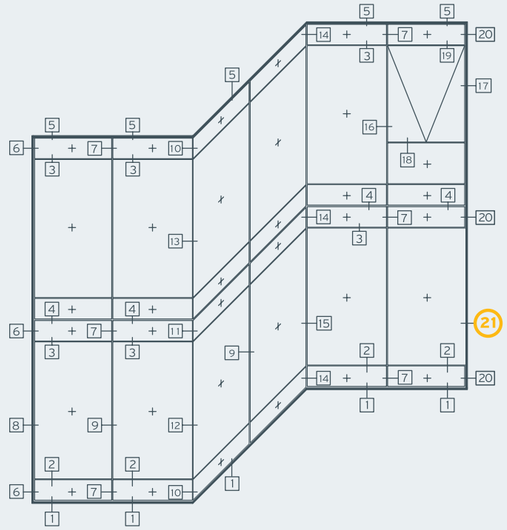

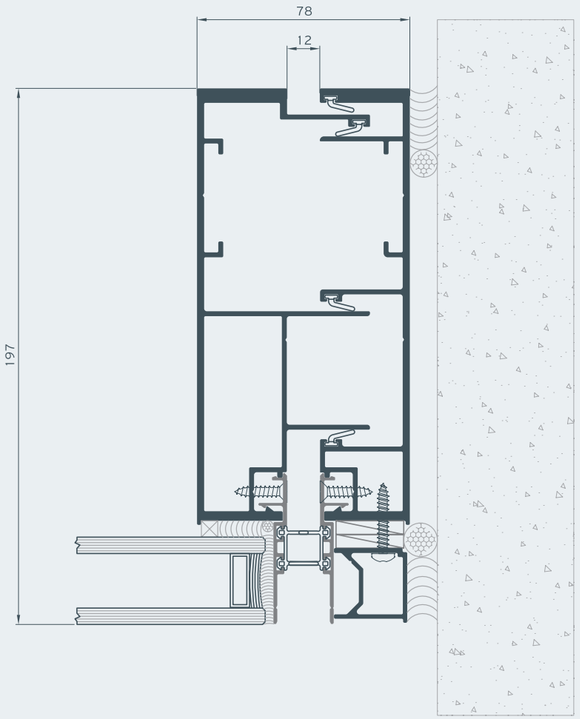

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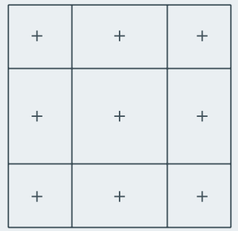
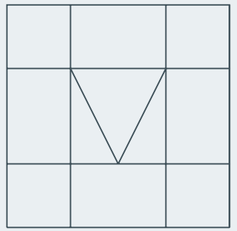
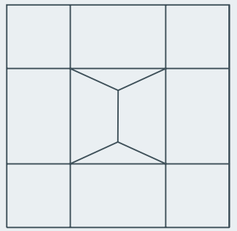
Applications



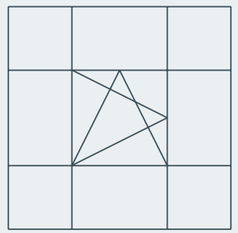
Fixed



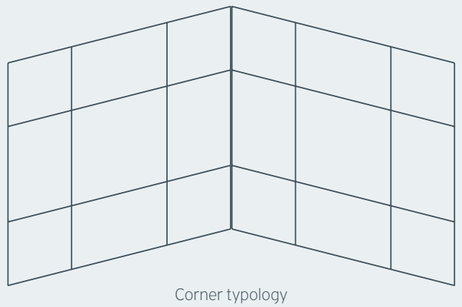
Projected window



Parallel project window



Tilt and turn window



Corner typology

Table of performance

CERTIFICATION	CLASSIFICATION				
Water tightness EN 12154	R4 (150 Pa)	R5 (300 Pa)	R6 (450 Pa)	R7 (600 Pa)	**RE1200 (1200 Pa)**
Air permeability EN 12152	A1 (150 Pa)	A2 (300 Pa)	A3 (450 Pa)	A4 (600 Pa)	**AE (>600 Pa)**
Wind load resistance, max. test pressure EN 13116		**DESIGN LOAD ±2000 Pa**		**SAFETY LOAD ±3000 Pa**	
Impact Resistance EN 14019	I1 E1	I2 E2	I3 E3	I4 E4	**I5 E5**
Thermal insulation EN12631	U_f down to 2,1 W/m²K depending on the profile combinations and glazing thickness				

ift ROSENHEIM

CERTIFICATION	CLASSIFICATION				
Water tightness EN 12154	R4 (150 Pa)	R5 (300 Pa)	R6 (450 Pa)	R7 (600 Pa)	**RE1200 (1200 Pa)**
Air permeability EN 12152	A1 (150 Pa)	A2 (300 Pa)	A3 (450 Pa)	A4 (600 Pa)	**AE (>600 Pa)**
Wind load resistance, max. test pressure EN 13116		**DESIGN LOAD ±2000 Pa**		**SAFETY LOAD ±3000 Pa**	
Impact Resistance EN 14019	I1 E1	I2 E2	I3 E3	I4 E4	**I5 E5**

CENTRE FOR WINDOW AND CLADDING TECHNOLOGY

Certified performances by CWCT Bath(UK)

EN DEC 2020

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