

**THOMAS BELL-WRIGHT
INTERNATIONAL CONSULTANTS**



In accordance with UKAS accreditation to ISO 17065
Certification is Hereby Granted

to

PIZ S.r.l.

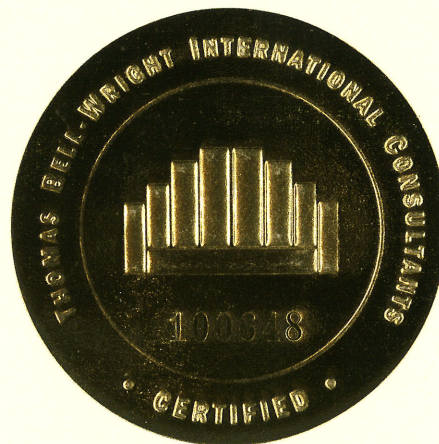
*Via Dei Molini, 22
23010 Cosio Valtellino, (SO), Italy*

for

**“PIZ H89 Rock Metabio”
Exterior Cladding System
Test Method: NFPA 285-2019 Edition
(System Designation: Q010070-89)**

which, subject to limitations described on the following pages and continued listing on www.tbwcert.com, complies with Product Certification Scheme *SD03 Exterior Wall Assemblies, Cladding, Curtain Walls, Building Materials, Products, and Assemblies*

In witness whereof this Certificate is issued this 25th day of July 2019



Sandy Dweik

Sandy Dweik
Chief Executive Officer

Nicholas Purcell

Nicholas Purcell
Director of Certification

Certificate Number: TBW0300497

Initial registration: July 25, 2019
File Name: TC085 PIZ Srl

Issued: July 25, 2019

Expiration: July 24, 2022

This certificate and schedules are held in force by regular Factory Inspections by Thomas Bell-Wright International Consultants (TBWIC). Refer to www.tbwcert.com or contact TBWIC Fire Compliance Division to validate the current status of Certification. This certificate remains the property of THOMAS BELL-WRIGHT INTERNATIONAL CONSULTANTS, PO BOX 26385, DUBAI, UAE.

Tel: +971 4 821 5777, Email: certification@bell-wright.com. Web: www.bell-wright.com F 19 Scheme Certificate Issue 5 Dec 2016

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“PIZ H89 Rock Metabio” Exterior Cladding System (System Designation: Q010070-89)

- A. Certification is given for “PIZ H89 Rock Metabio” exterior cladding system which has **successfully met** the requirements for fire propagation characteristics when evaluated against NFPA 285-2019 Edition, subject to the limitations below. Readers of this document should be familiar with Fire Test Method for Evaluation of Fire Propagation Characteristics of Exterior Non-Load-Bearing Wall Assemblies Containing Combustible Components and the requirements of ISO/IEC 17065:2012. The Certification will be listed on www.tbwcert.com, while it remains current. This Certification is not valid if this product is not so listed.
- B. The product is approved on the basis of TBWIC Product Certification Scheme SD03 for Exterior Wall Assemblies, Cladding, Curtain Walls, Building Materials, Products and Assemblies which includes pre-test sampling, evidence of performance (under ref: TBWIC Test Report No. TC085 Rev.0), Technical Verification and Proof of Performance, compliance to Factory Production Control requirements and surveillance & Re-certification Inspection/ Audits.
- C. Limitations:
- C.1. This Certification covers the fire propagation characteristics of exterior wall assembly when evaluated against the NFPA 285-2019 Edition fire test method. The exterior wall assembly has been evaluated for fire propagation characteristics as specified in the following*:
- (a) The ability of the wall assembly to resist flame propagation over the exterior face of the wall assembly*;
 - (b) The ability of the wall assembly to resist vertical flame propagation within the combustible components from one story to the next*;
 - (c) The ability of the wall assembly to resist vertical flame propagation over the interior surface of the wall assembly from one story to the next*;
 - (d) The ability of the wall assembly to resist lateral flame propagation from the compartment of fire origin to adjacent compartments or spaces*.
- C.2. This Certification covers the performance of the exterior wall assembly when exposed to fire from an interior room that reaches flashover, breaks exterior windows and exposes the building façade. It is not intended to address the effect of exterior radiation from nearby fires but is relevant to fires that start at the exterior wall assembly*.
- C.3. This Certification covers the exterior wall assembly in its entirety. It does not extend to individual components that comprise the exterior wall assembly (on their own).
- C.4. The actual field installations of the exterior wall cladding system covered under this certification shall not limit the use of the methods and materials employed to seal the gap between the edge of the floor slab and the interior surface of the test specimen during the test, provided approved sealing methods and materials are used in the field*.

***NFPA 285 2019 Edition**

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Nicholas Purcell

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- C.5. The design of the exterior wall assembly covered under this certification including the exact specification of the components, a method of fixing and condition of such component which was subjected to the fire test shall be duplicated when installed on the site. The design and components of the non-load-bearing exterior wall cladding assembly are not intended to be substituted, eliminated or interchanged unless recognized and approved by this certification.
- C.6. The method used to seal the gap on the joints between the panels, along with the components used were evaluated and certified as part of the exterior wall cladding for fire propagation characteristics only. Physical performance such as (but not limited to) resistance to weathering, resistance to impact/movement, adhesion, mechanical resistance and stability, or thermal properties are not considered.
- C.7. Window flashing details shall be as tested. No variations allowed.
- C.8. The test (and Certification) do not address the following:
- Air and Water Permeability.
 - Measurement of heat transmission.
 - Classification or definition of material as noncombustible.
 - Any Resistance to Fire rating.
 - Toxicity level of smoke developed during combustion.
 - Effect of aggravated flame spread behavior of an assembly resulting from the proximity of combustible materials.
 - Effects of combustible accessories installed or fixed on the surface of exterior cladding material such as laminates, banners, signage, and alike.
 - Effects of radiation from nearby fires.

D. System Configuration

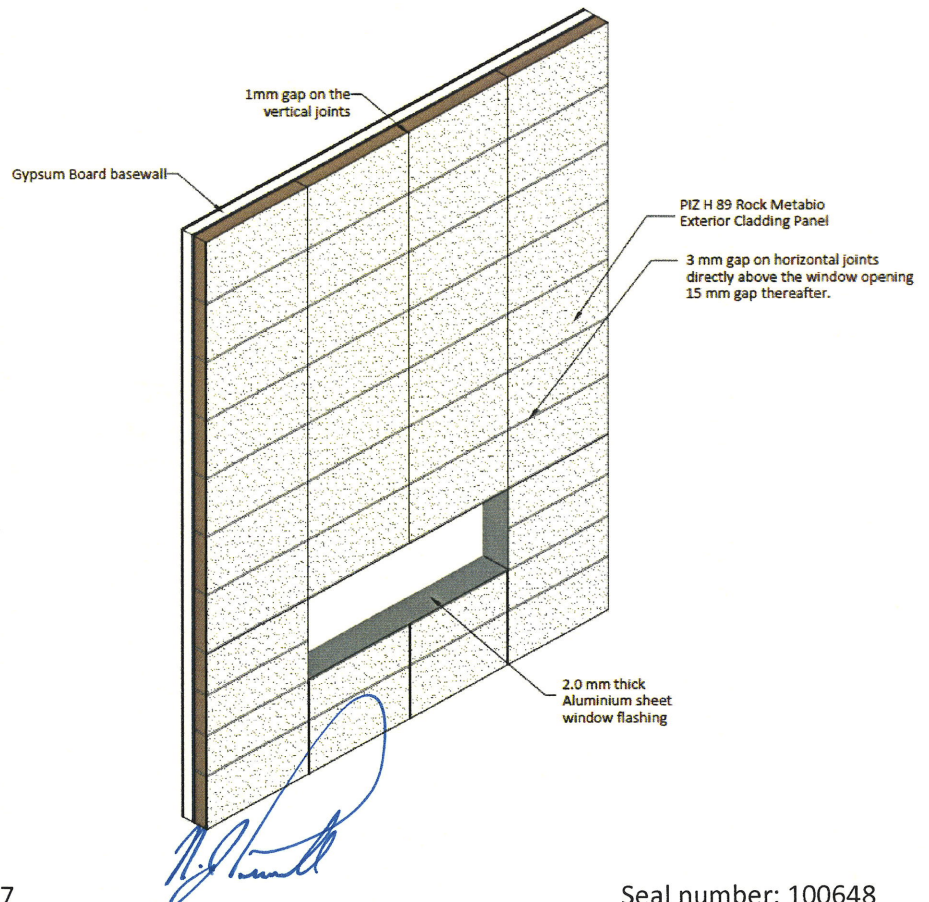


Figure 1. "PIZ H89 Rock Metabio" Exterior Cladding Assembly

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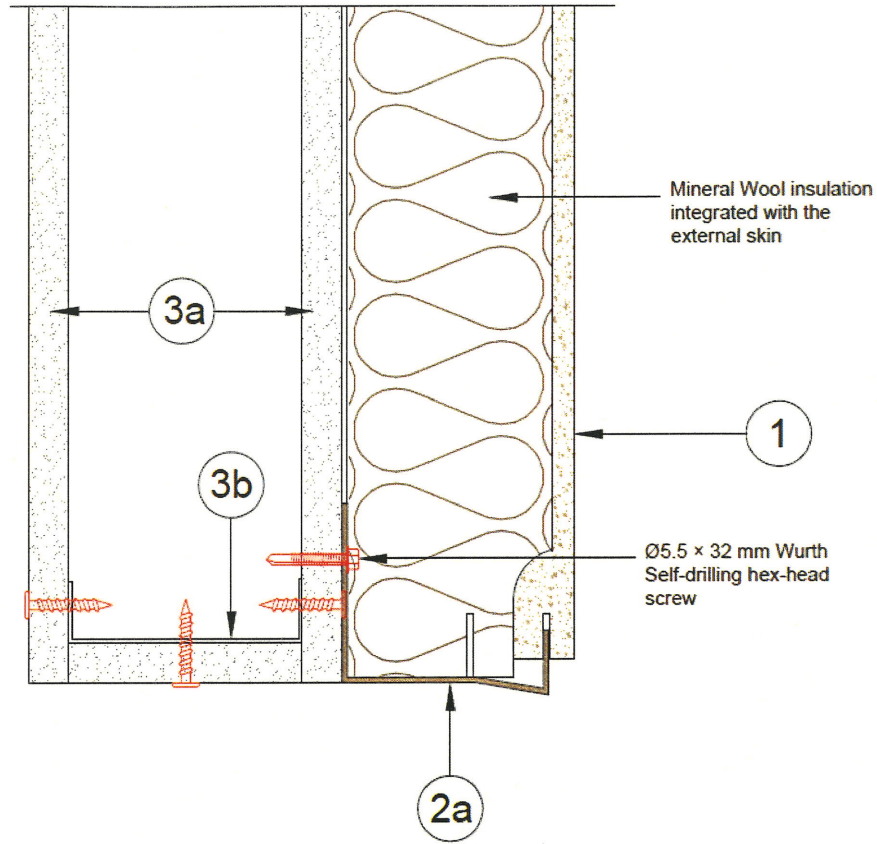


Figure 2. Wall assembly vertical section- bottom edge

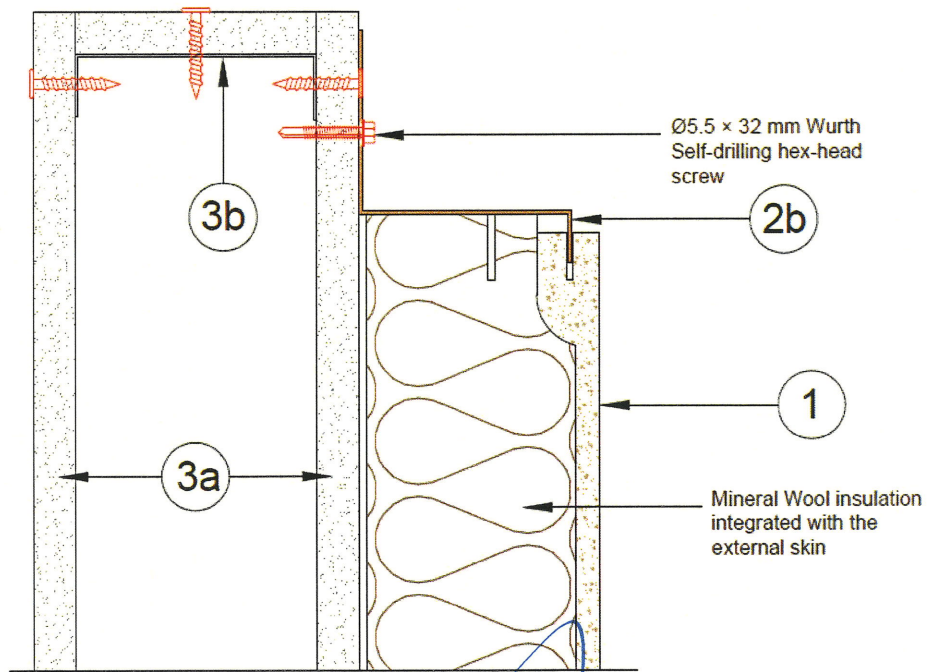


Figure 3. Wall assembly vertical section- top section

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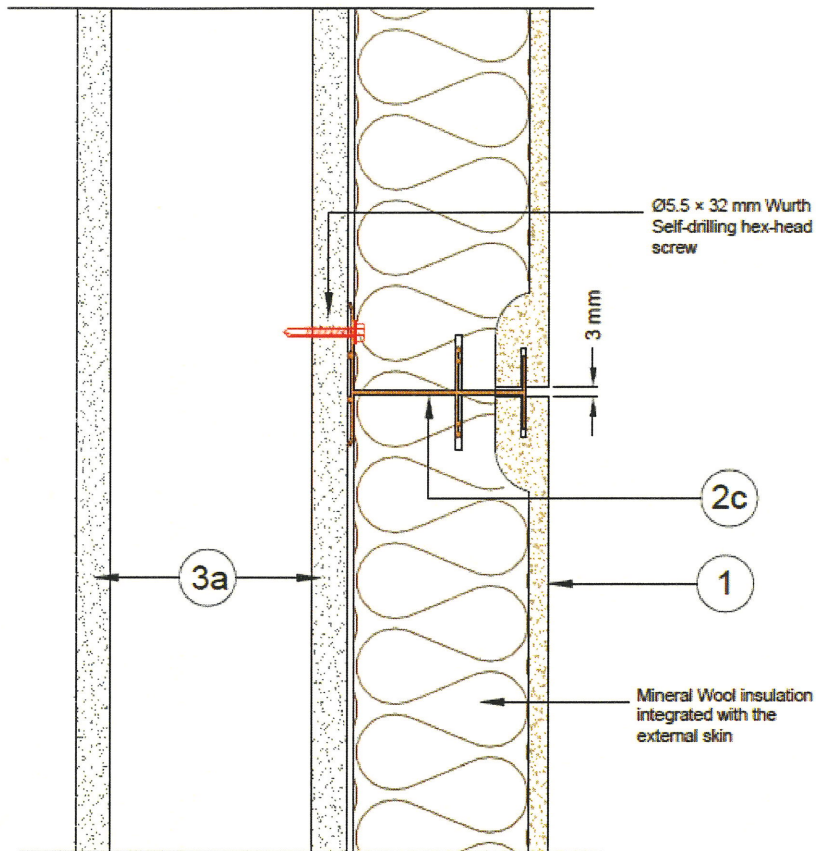


Figure 4. Vertical section with panel joint details

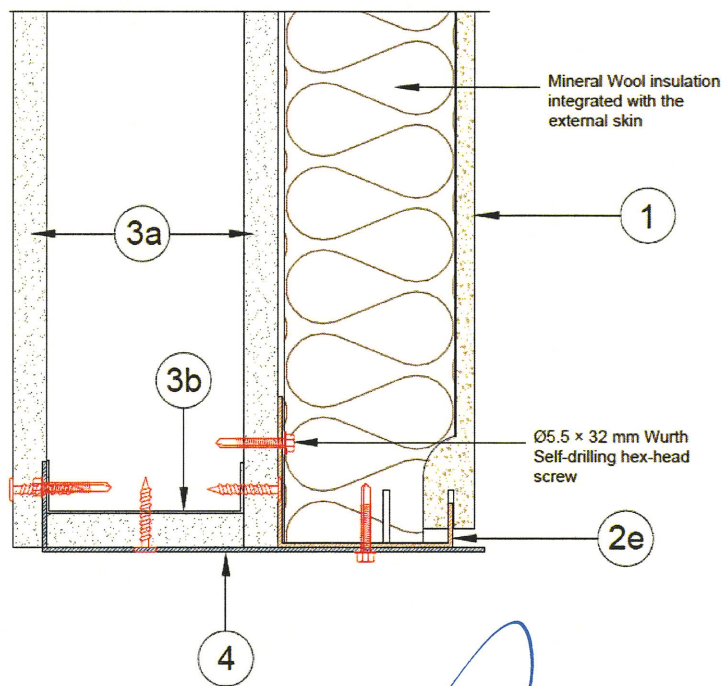


Figure 5. Vertical window section details

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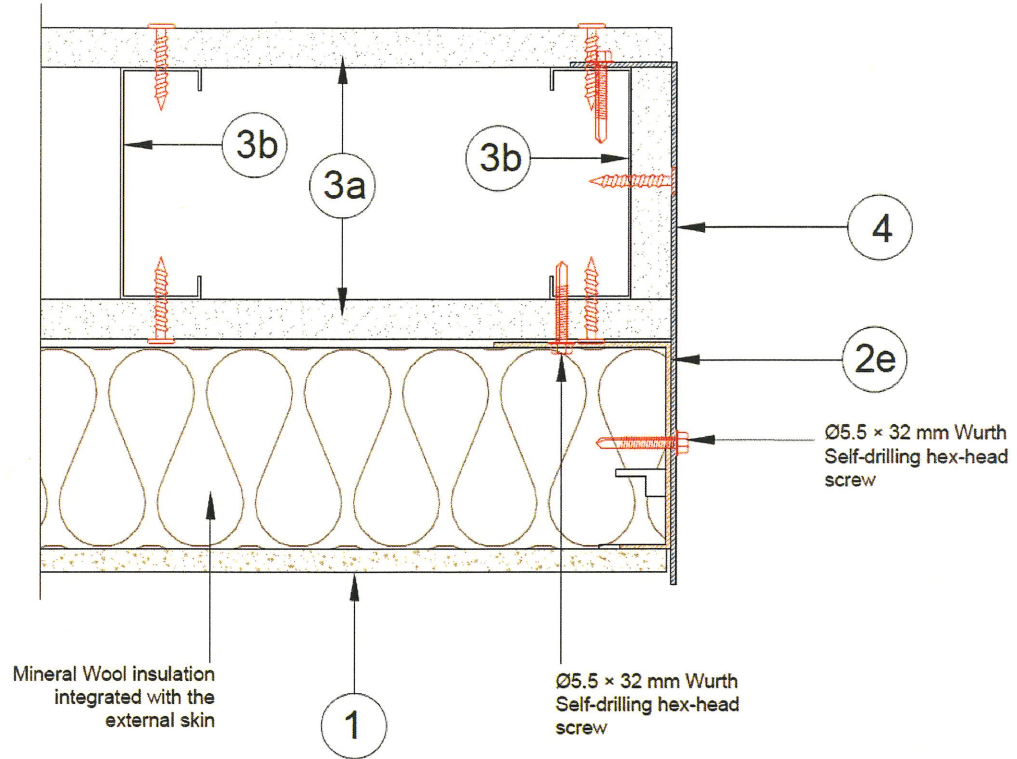


Figure 6. Horizontal window section details

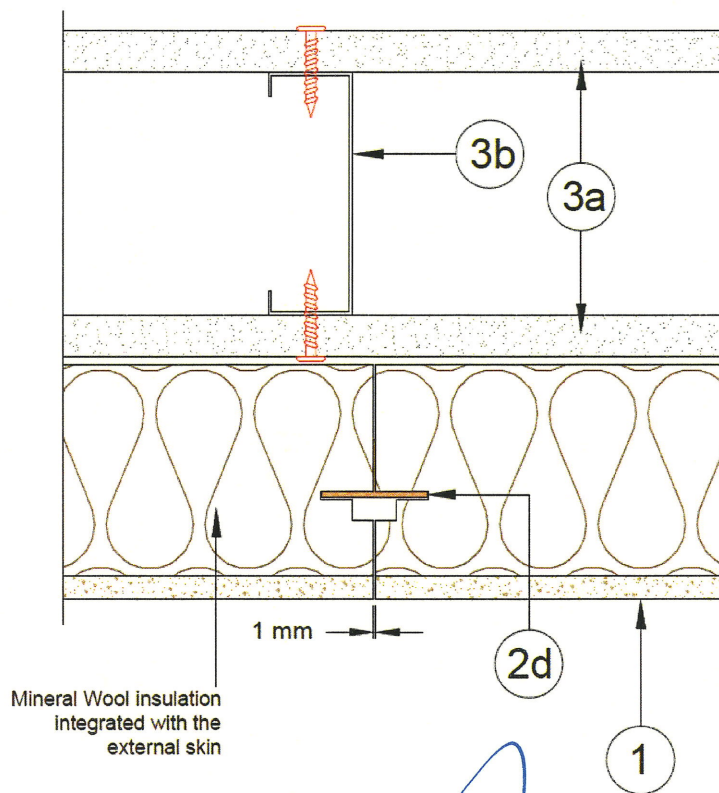


Figure 7. Horizontal joint section details

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1. Exterior cladding element

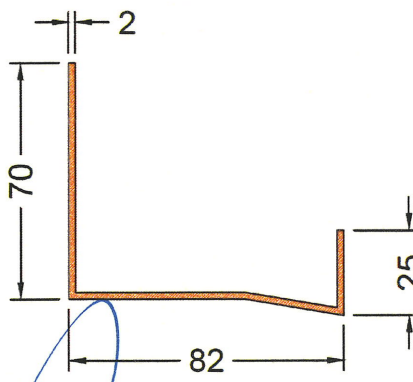
89 mm thick panel composed of 9 mm thick fibre-reinforced composite hydraulic mortar with 80 mm thick mineral wool insulation. The panels were installed with the long edge parallel to the horizontal plane on an aluminium sub-frame.

A gap of nominal 3 mm wide was maintained on the horizontal joints between the panels directly above and below the window opening and 15 mm wide gap was maintained on the preceding joints. A nominal 1 mm gap was maintained on the vertical joints. The gaps were “dry-sealed” using the aluminium profiles. The details of the panels are stated in Table 1 below:

Table 1. “PIZ H89 Rock Metabio” panel details (as tested)

Weight	30 kg/m ² ±10%
External Skin	Fibre-reinforced composite hydraulic mortar Density: 1925 kg/m ² ±4% Thickness: 8-9 mm thick
Insulation Layer	Material: Mineral Wool Density: 135 kg/m ² ±10% Thickness: 80 mm +0.5/-1 mm
Overall Panel Thickness	89 mm -1/+1.5 mm
Maximum Panel Width	1284 mm
Maximum Panel Height	535 mm
Minimum Panel Width	989 mm
Minimum Panel Height	375 mm

2. Sub framing Components

<p>2a. “C” Bottom Profile</p> <p>Material: Aluminium Alloy EN AW 5005 H14</p> <p>Fixing Details: Fixed at the top edge joint using Ø5.5 × 32 mm Wurth Self-drilling hexagonal head screw at 450 mm centres and 30 mm from ends.</p>	
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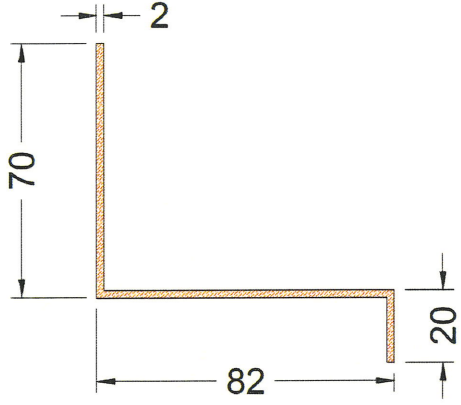
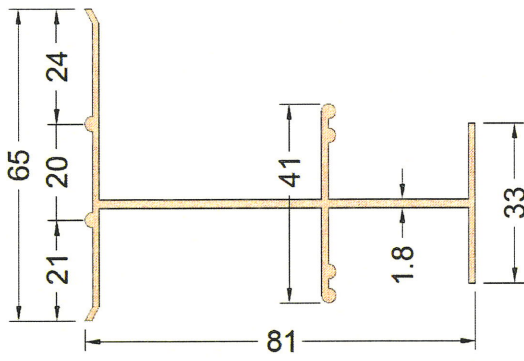
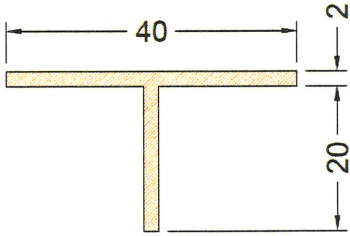
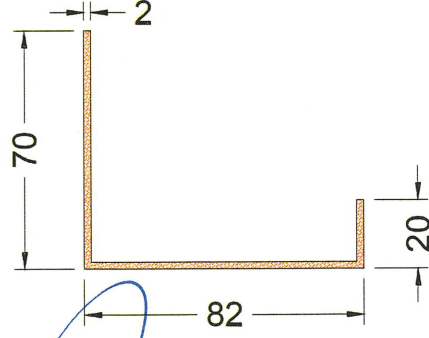
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<p>2b. "Z" Top Profile</p> <p>Material: Aluminium Alloy EN AW 5005 H14</p> <p>Fixing Details: Fixed at the top panel at the head of the wall assembly using $\varnothing 5.5 \times 32$ mm Wurth Self-drilling hexagonal head screw at 450 mm centres and 30 mm from ends.</p>	
<p>2c. "H" Rail</p> <p>Material: Aluminium Alloy EN AW 6060 T6</p> <p>Fixing Details: Fixed at every horizontal panel joint using $\varnothing 5.5 \times 32$ mm Wurth Self-drilling hexagonal head screw at 450 mm centres and 30 mm from ends.</p>	
<p>2d. "T" Profile</p> <p>Material: Aluminium Alloy EN AW 6060 T6</p> <p>Fixing Details: Inserted into the vertical joint between the panels to hold the panels together.</p>	
<p>2e. Window Perimeter Profile</p> <p>Material: Aluminium Alloy EN AW 5005 H14</p> <p>Fixing Details: Fixed at the window aperture using $\varnothing 5.5 \times 32$ mm Wurth Self-drilling hexagonal head screw at 450 mm centres and 30 mm from ends.</p>	

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3. Base Wall

3a. Interior & Exterior Gypsum Board

1220 × 2400 × 15.9 mm (width × length × thickness) Type X (GW-TX) gypsum board by KNAUF fixed on 1.2 mm thick galvanized steel studs and tracks using Ø3.5 mm × 35 mm zinc-coated drywall screws at 300 mm centres. The board joints were covered with KNAUF joint tape and KNAUF Readygips jointing compound. Screw heads were covered with jointing compound.

3b. Steel Studs and Tracks

1.2 mm thick galvanized steel (ASTM A653/A653M- Commercial Grade) studs, 92 × 32 × 32 × 9 × 1.2mm (web × flange × flange × lip × thickness) and tracks, 95 × 25 × 25 × 1.2 mm (web × flange × flange × thickness) welded directly to the test frame.

4. Window flashing

2.0 mm thick aluminium sheet fixed to the basewall using Ø5.5 × 32 mm Wurth Self-drilling hexagonal head screw at 150 mm centres and 20 mm from ends.

E. Approved manufacturing location

Via Dei Molini, 22
23010 Cosio Valtellino, (SO), Italy

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