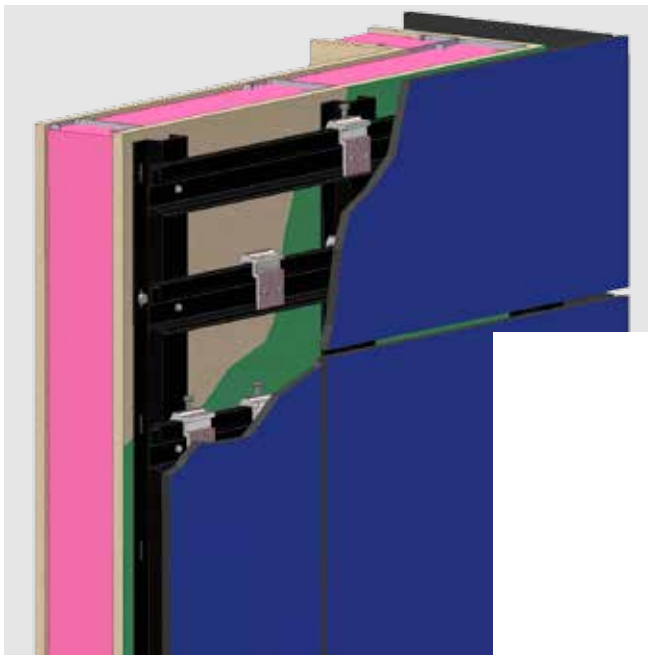


# TS210 INVISIBLE (CONCEALED) BRACKET-RAILFIX ON AN ALUMINUM SUB-FRAME

This system offers large flexibility for installing Trespa® Meteon® panels, the use of adjustable brackets allow for precise joints and an optimal façade grid.

Trespa® Meteon® panels with a minimum thickness of 3/8 inch\* (10 mm) may be fixed invisibly on an aluminium sub-frame comprising horizontal rails and hanging brackets fixed with expansion anchors to the back of the panel.



> Chief Sealth High School /  
Denny Middle School, USA  
> Arch. Bassetti Architects



This document is intended to provide general recommendations only. Trespa provides these guidelines and all testing, code and design data for informational purposes only and strongly advises that the customer, project owner and architect seek independent advice from a certified construction professional and/or engineer regarding application and installation as well as compliance with design requirements, applicable codes, laws and regulations, and test standards. Please check your local codes and applicable design requirements for proper use.

\* Note that due to conversion, the value provided is approximate.

# OVERVIEW OF AVAILABLE CERTIFICATES AND TEST REPORTS

To consult the full details of available certificates please visit [www.trespa.info/meteon/certificates](http://www.trespa.info/meteon/certificates)

For TNA systems that meet the performance criteria of the NFPA 285 or ULC S134 multistory fire test standard, refer to design details indicated with a “285” or “134.”

## GENERAL INSTALLATION DETAILS

### Cavity depth and ventilation (Free air cavity)

The free air cavity depth between the backside of the horizontal rail and the face of the weather barrier is 1 inch (25 mm\*). This free air cavity allows for ambient air to flow through from the ventilation inlets and outlets. Ventilation perforations must allow for a minimum opening of 2.36 square inches per linear foot\* (50 square cm per linear meter) over the whole façade. Cavity depth as well as ventilation inlets and outlets must be in accordance with applicable building standards, regulations and certificates.

### Sub-frame

Trespa® Meteon® panels must be installed on a sub-frame, comprised of aluminum extrusions, of sufficient strength and permanent durability. Quality and/or treatment of the sub-frame must be in accordance with applicable building standards, regulations and certificates.

### Fixing detail

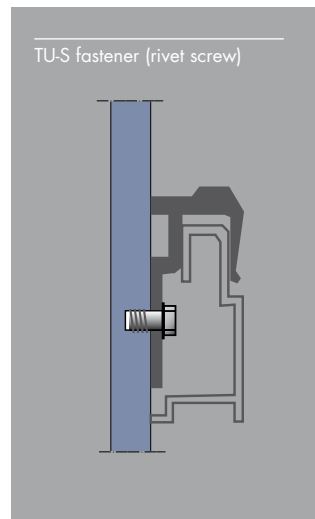
Panel brackets are attached to the Trespa® Meteon® panels using two stainless steel expansion anchors per bracket. Hole depth, hole diameter, length and anchoring depth of fixings has to be in accordance with applicable installation guidelines. In order to prevent the ingress of moisture into the blind holes of fixings, holes must be drilled in a dry environment. Pre-drilled panels must be stored under dry conditions. Failure to comply may result in visible panel surface deformation.

\* Note that due to conversion, the value provided is approximate.

Each panel has two adjusting points. To retain panel position, the panel must have one fixed point at the top by inserting a self-drilling screw (or similar) through the hanging bracket and into the rail.

Fixing method:

- TU-S fastener (rivet screw)



Remaining panel thickness: 3/32 inch\* (2.5 mm).

Anchoring depth: total panel thickness minus 1/8 inch\* (3 mm).

# OVERVIEW OF TECHNICAL INSTALLATION DETAILS

AutoCAD drawings for TS210 are available at [www.trespa.info/meteon/fixingsystems](http://www.trespa.info/meteon/fixingsystems)

Trespa® panels	
Panel color/decor	Uni colors, Metallics, Wood Decors, Naturals
Panel thickness	3/8 inch* (10 mm), 1/2 inch* (13 mm)
Non-Trespa components/geometry to cladding	
Free air cavity (back face of rail profile to the weather resistive barrier)	1 inch (25 mm*)
Aluminum profiles	(as required per structural design)
Weather resistive barrier	Undefined

## Technical installation details

### Panel thickness

Panel thickness	inch*	mm
	3/8	10
	1/2	13

### Maximum panel dimension

Max. panel dimensions	inch*	mm
	120 x 72	3050 x 1860

### Joint width

Joint width	inch*	mm
	3/8	10

Based on applicable building standards, regulations or certificates, wider joints may be permissible.

### Edge clearance

#### Edge clearance inch\* (mm)

Vertical and horizontal edge distance minimum 2 1/2 inch\* (65 mm) and maximum 10 x panel thickness, counted from the center of the first fixing

\* Note that due to conversion, the value provided is approximate.

## Recommended maximum fixing distances

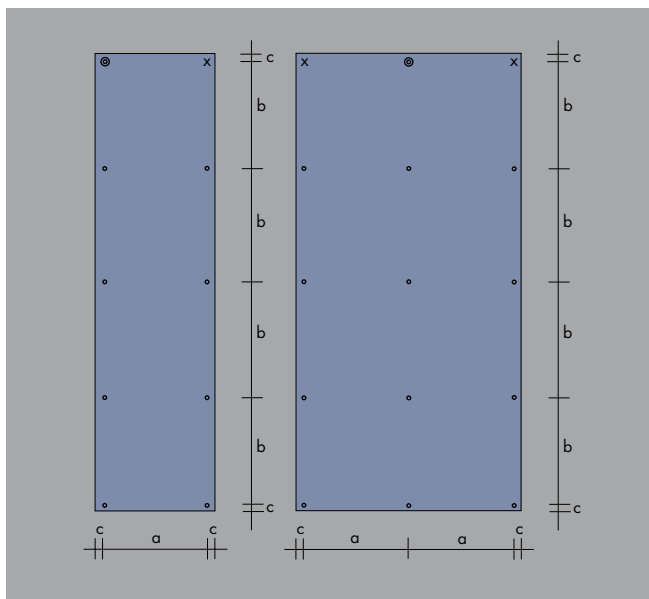
Maximum Fixing distances <sup>A</sup>	Panel Thickness for Satin / Rock / Matt				Panel Thickness for Gloss <sup>B</sup>	
	inch*	mm	inch*	mm	inch*	mm
2 fasteners in one direction	29	750	38	950	29	750
3 or more fasteners in one direction	35	900	48	1200	35	900

<sup>A</sup> The maximum permitted fixing distances shown have been designed with a maximum (wind) load of 20 pounds per square foot (psf) and a maximum deflection criteria of L/175.

<sup>B</sup> Based on the surface properties of Gloss panels, fixing distances are reduced.

Fixing distances must be calculated in accordance with applicable local standards, regulations and certificates and should be verified by a structural engineer.

For more information about deflection and wind loads, please visit [www.trespa.info/meteon/fixingsystems](http://www.trespa.info/meteon/fixingsystems)



Fixing and edge clearances

a = horizontal fixing distance

b = vertical fixing distance

c = edge clearance

⊙ = fixed point

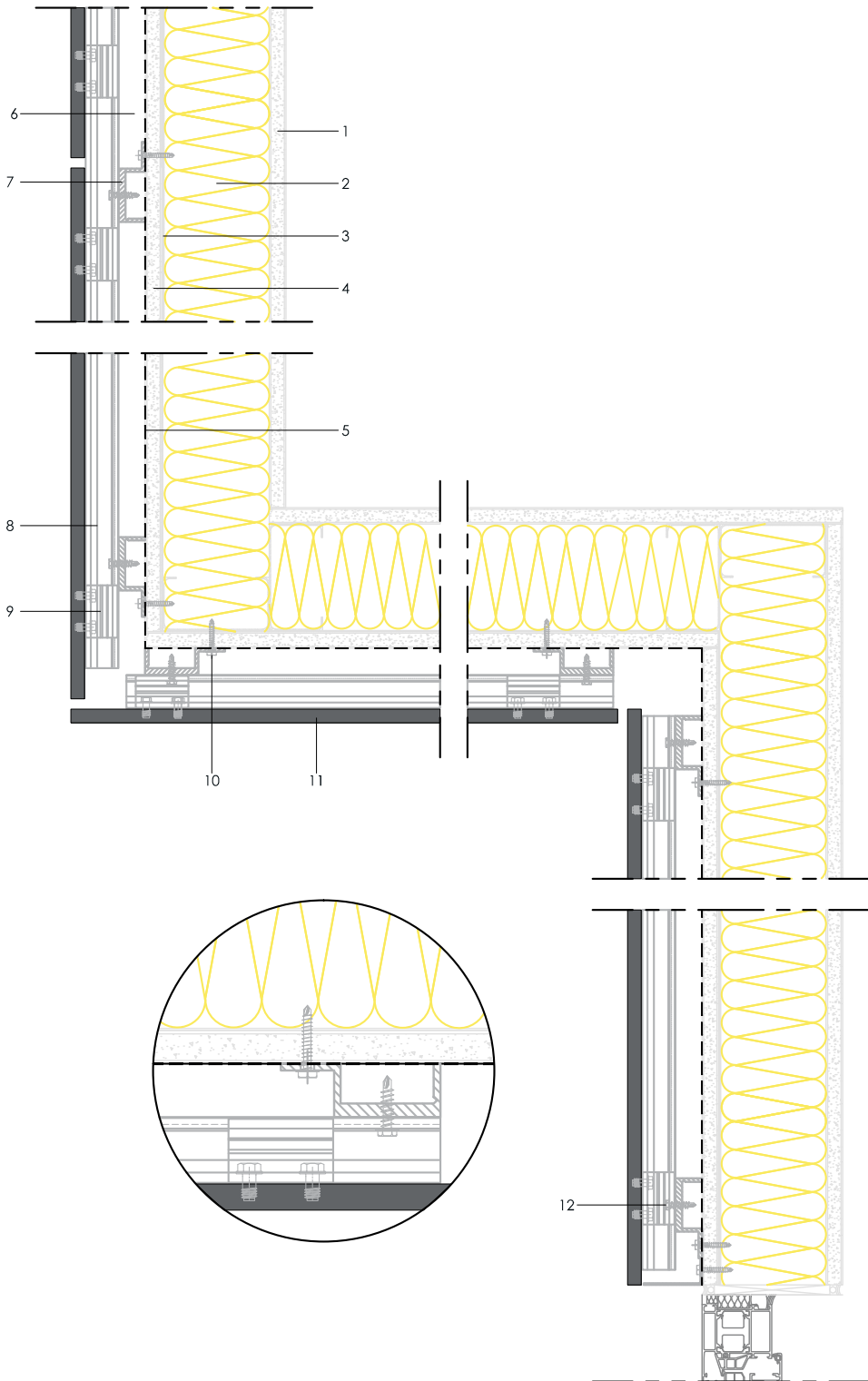
⊗ = adjusting point

○ = sliding point:

Lower brackets fixed higher at such a level as to facilitate downward panel movement 0.03 in per foot\* (2.5 mm per metre)

\* Note that due to conversion, the value provided is approximate.

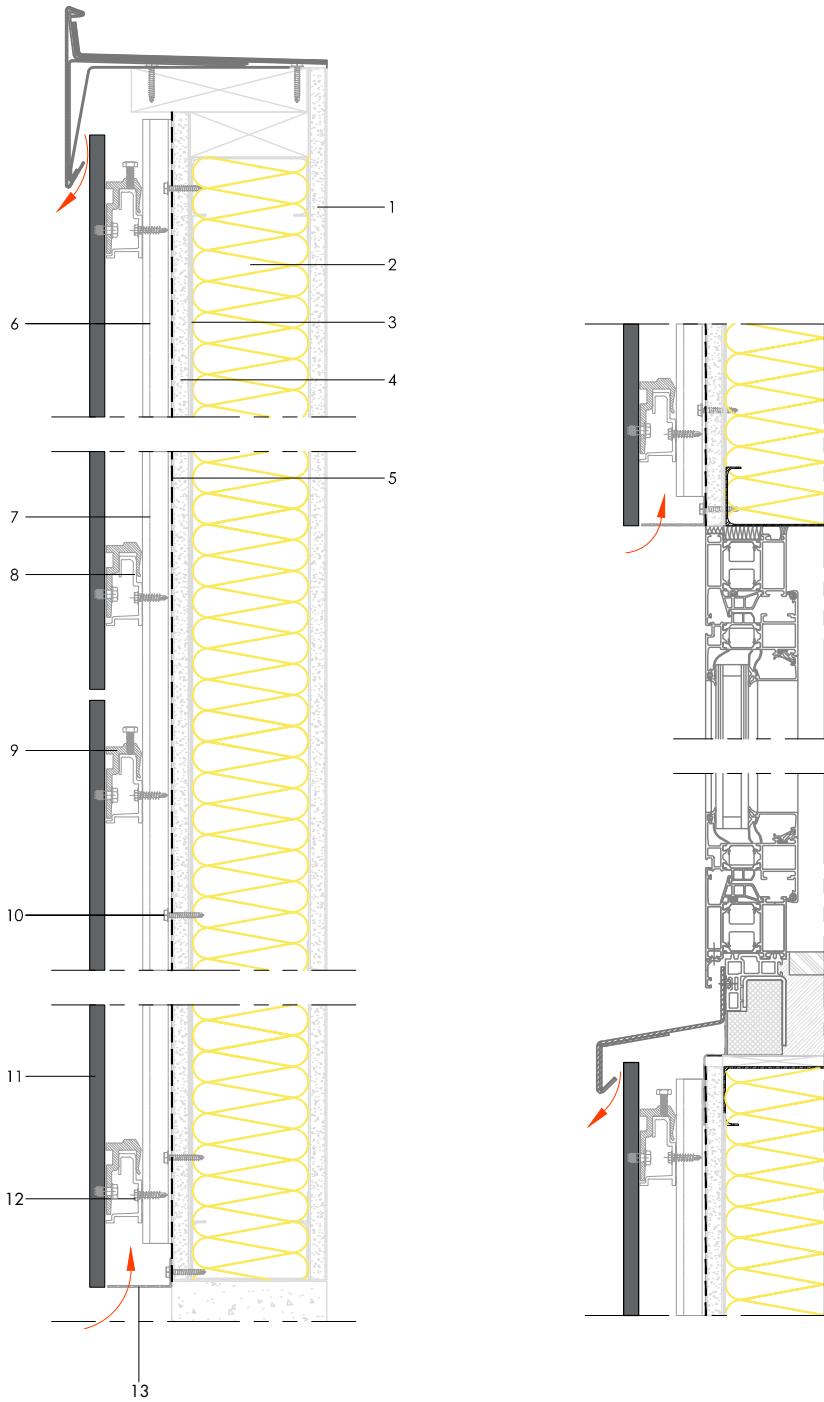
**TS210**  
**Horizontal cross-section**



- 1. Interior sheathing\*\*
  - 2. Thermal insulation\*\*
  - 3. Steel stud\*\* / backing plate\*\*
  - 4. Exterior sheathing\*\*
  - 5. Weather barrier (vapor permeable)\*\*
  - 6. Ventilated cavity\*\*
  - 7. J-channel\*\*
  - 8. Rail\*\*
  - 9. Adjustable bracket\*\*
  - 10. Channel anchor\*\*
  - 11. Trespa® Meteoron® panel
  - 12. Rail anchor\*\*
- \*\* not by Trespa

**TS210**  
**Vertical cross-section**

1. Interior sheathing\*\*
  2. Thermal insulation\*\*
  3. Steel stud\*\* / backing plate\*\*
  4. Exterior sheathing\*\*
  5. Weather barrier (vapor permeable)\*\*
  6. Ventilated cavity\*\*
  7. J-channel\*\*
  8. Rail\*\*
  9. Adjustable bracket\*\*
  10. Channel anchor\*\*
  11. Trespa® Meteon® panel
  12. Rail anchor\*\*
  13. Vent screen\*\*
- \*\* not by Trespa



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