EQUITONE
Fibre cement facade materials

METAL SUPPORT FRAME SPECIFICATION FOR VENTILATED RAINSCREEN FAÇADES

This document acts as a general guideline & provides the minimum requirements to comply with our specifications. For project specific structural requirements, all system components & requirements must comply with local building codes & regulations. All structural calculations must be verified & endorsed by the structural engineer.

Recommended materials

- Aluminium: Minimum BS 1474 Grade 6082 T6, 6063 T5 or equivalent
- Galvanised steel: Minimum Sendzimir galvanized steel with galvanized coating of 275 g/m^2, or external grade galvanized steel in accordance to local building regulations.
- Stainless steel: Minimum Grade 304, 316 or equivalent; depending on project requirements

General Specification

Minimum profile thickness	**Aluminium** **Galvanised/** **Stainless steel**	≥ 1.7mm ≥ 1.15mm (≤ 10m high building) ≥ 1.5mm (>10m high building)
Minimum depth of profile		≥ 35mm
Minimum width of intermediate profile		≥ 40mm
Minimum width of joint profile		≥ 90mm
Recommended width of joint profile		≥ 120mm
Maximum allowable deflection		≤ Span/300
Recommended safety factor for calculation		3
Maximum length of profile		3m (Aluminium); 6m (Steel)
Movement joint between adjacent profile		20mm
Maximum unsupported length from last bracket/anchor		250mm

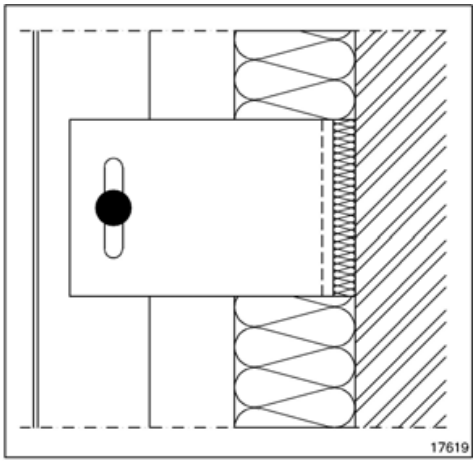
Anchoring

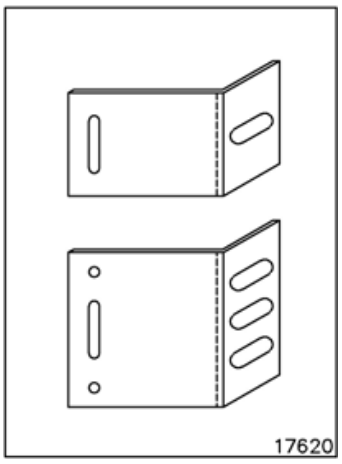
- Minimum pull-out value per fixing point: 3 kN (300 kg)
- The chosen anchor is able to accept the imposed loads.
- Allowance of an adequate safety factor, value of 3 is recommended.
- All anchors to be non-corrosive type, such as stainless steel.

Support frame profiles

Position	Section
Vertical joint profiles	Rectangular or square hollow 
	T-profile 
	Top hat, furring channel or Omega profile 
Intermediate profiles	Rectangular or square hollow 
	L-profile 
	C-profile 
	Top hat, furring channel or Omega profile 
	Z-profile 

Angle brackets

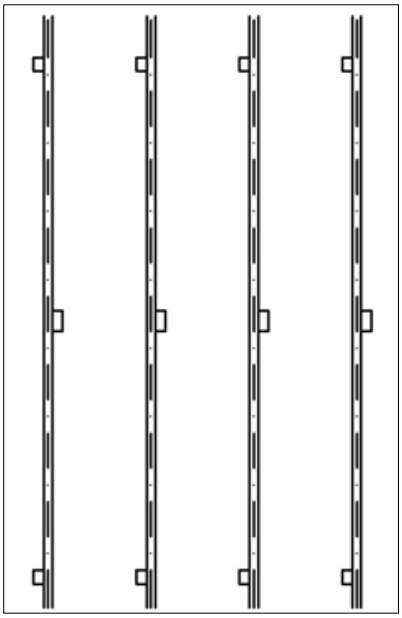




- Thickness: ≥ 3mm
- Length of slot: ≥ 20mm
- Span: ≥ 50mm (depending on cavity width and insulation requirements)
- Material:

Support frame material	Angle bracket material
Aluminium	Aluminium
Galvanised steel Stainless steel	Galvanised steel Stainless steel

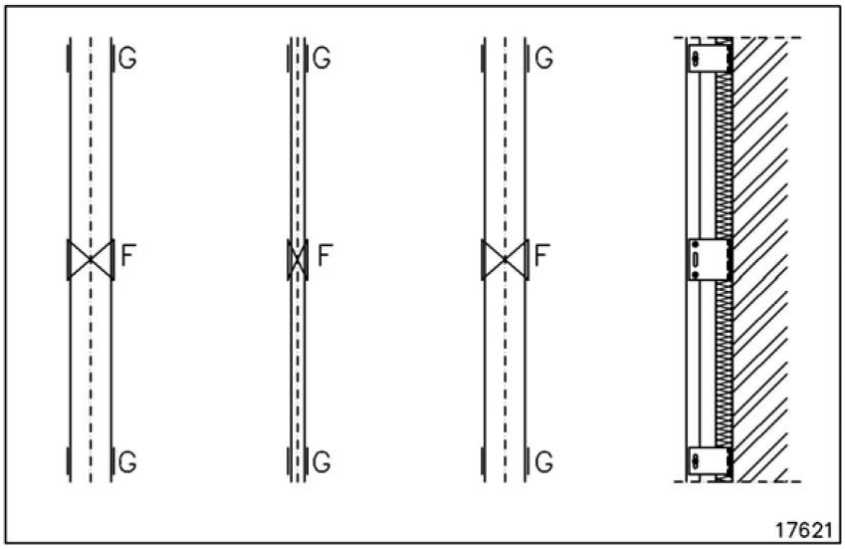
- All aluminium components in direct contact with cement surfaces such as concrete walls; must be coated or isolated with protective pads.
- Each section of vertical support frame must be supported by a minimum of 3 angle brackets.
- To obtain a stable supporting structure, the angle brackets can alternately be fitted left and right of the support frame profile.



- Maximum distance between brackets: 1.5m
- Maximum distance from last bracket to end of profile: 250mm

Fixed & gliding points

In view of the thermal coefficient of expansion of metal support frames, the metal support frames must be fixed in such a way that free movement is possible. The system for fixing the supporting brackets to the profile must accommodate the expansion of the metal support frame. This is achieved by fixing the sections with one fixed fastening point (F: fixed point) and at other places free fastening points (G: Gliding point).



F: Fixed points

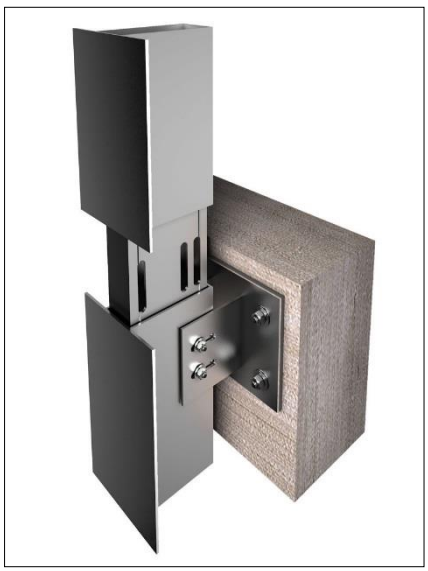
G: Gliding points

Note:

- The recommended position for the fixed points is at the middle of the profile; so that the thermal movement of the profile is restricted to half at both directions instead of full thermal movement in one direction.
- Never install panels over profiles with fixed points positioned at different levels.

Floor-to-floor systems

When considering a Floor-to-Floor system please note that heavy gauge brackets and profiles are needed. This must be designed by the design engineer or the façade consultant.



For further information, please consult with EQUITONE Asia Pacific Technical Department.

EQUITONE Asia Pacific

www.equitone.com

info.asia@equitone.com

info.australia@equitone.com