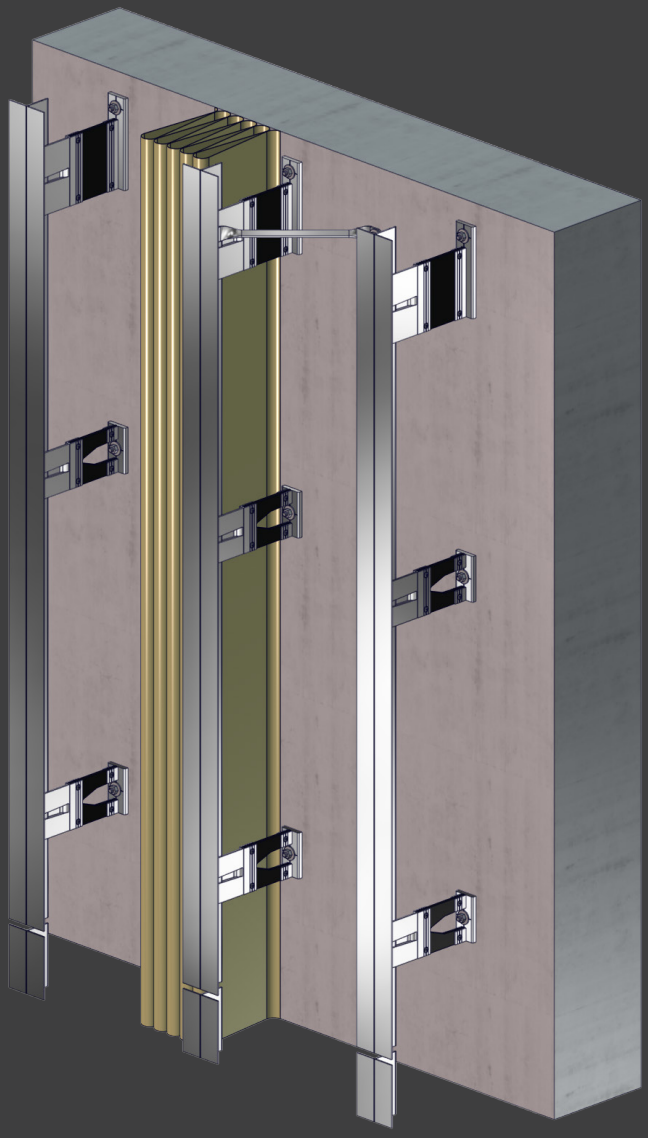
ECOLITE
FASSADENSYSTEME



Processing Guideline System Ecolite® V

Primary substructure Vertical

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Description

Ecolite® substructure systems stand for the efficient fastening of ventilated façade claddings, based on the current VKF fire protection guidelines, the SIA standards and the guidelines of the SFHF and GH Switzerland associations.

Application

Vertically aligned primary systems are particularly suitable for heavy façades or for those with horizontally running secondary profiles. In some cases, the cladding is also fixed directly to the vertical profiles.

Preparation

The following information must be available at least before the start of construction:

- Horizontal spacing of the vertical substructure profiles
- Vertical spacing of the brackets
- Type and mounting method of the brackets
- Type and fastening method of the profiles

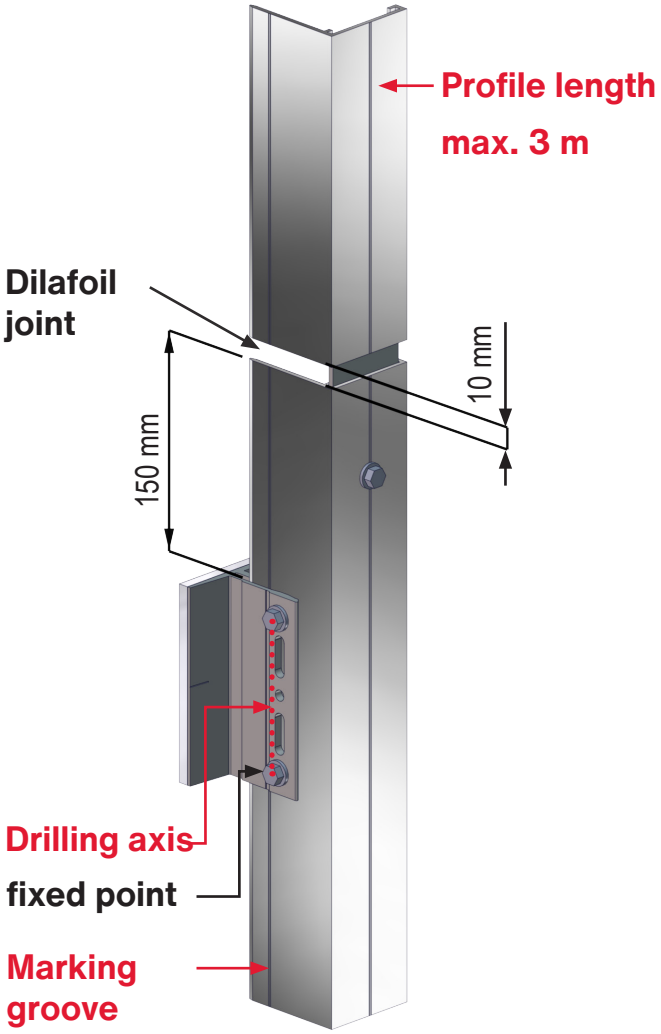
As a rule, either an implementation plan by a planner is available or at least a schematic, graphic interpretation of the statics on a representative façade section.

Version

- **Fixed point bracket** (carries the weight): If possible, in the centre of each vertical profile, number and position of rivets or screws for profile fastening according to statics.
- **Sliding point bracket** (absorbs the wind load): Mandatory two rivets or screws per bracket, offset with rivet gauge (dilatation).
- Profile lengths usually ≤ 3 m
- Dila joints ≥ 10 mm, not randomly distributed, but horizontally aligned to each other
- Dila joints approx. 15 cm to 20 cm above or below the nearest bracket
- Profile connectors fixed on one side only, when using connecting plates, provide the slotted holes with loose screws (no constraint).
- Seismic protection according to statics

Ecolite® HV Bracket

- Bracket with or without factory-applied THERMOSTOP® 5mm
- Bracket foot with notch for alignment with line lay
- Bracket with clamping finger: depth: 32, 42, or 72 mm for profile mounting
- Continuous adjustability of the profiles +/- 6, +/- 11, +/- 26 mm
- Only one type of bracket (combination brackets) for fixed and sliding points



- Dilafoil joint min. 10 mm
- The marking groove of the profile must not be pulled out of the bracket further than the screw axis.
- Dilafuge, depending on bracket grid, max. 3 m profile length (approx. 15 to 20 cm next to the next bracket fixing point).

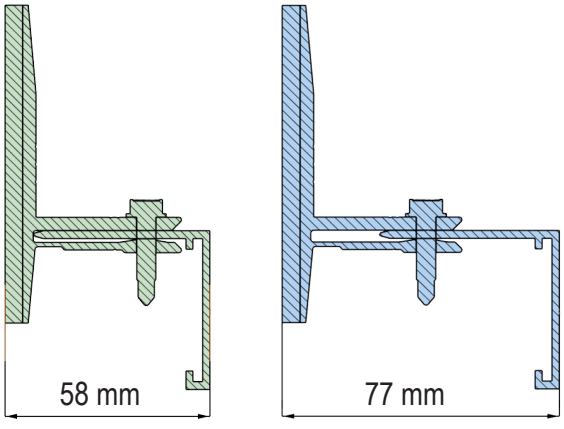
Fixed point

Tightening torque of the self-tapping screws according to manufactu-rer's

Sliding point

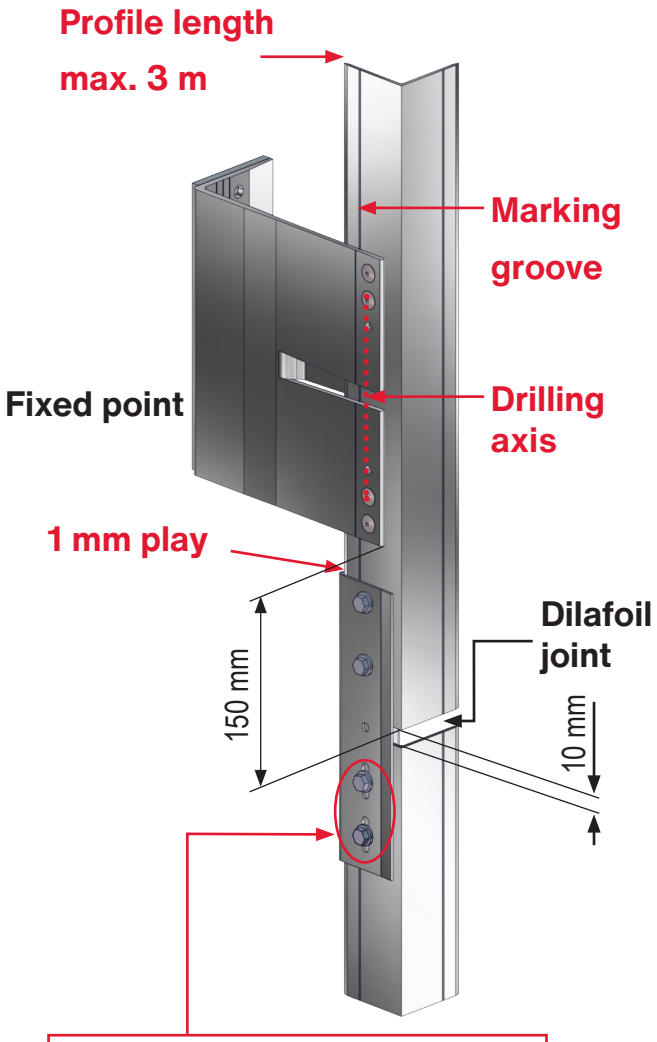
Do not fully tighten the self-tapping screws, or use a special tool so that the dilatation is possible without tension.
Bring the bracket into the stop with 1 mm play.

Adjustment range angle profile



Ecolite® Alu V Bracket

- Bracket with or without factory-applied THERMOSTOP® 5 mm
- 65 mm clamping finger for profile mounting
- Continuous adjustability of the profiles depending on the leg length, max. +/- 22 mm



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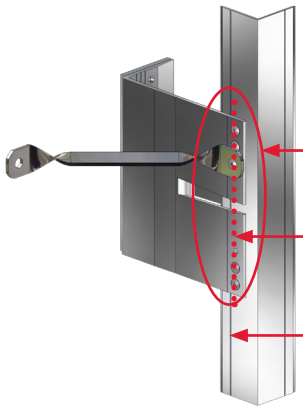
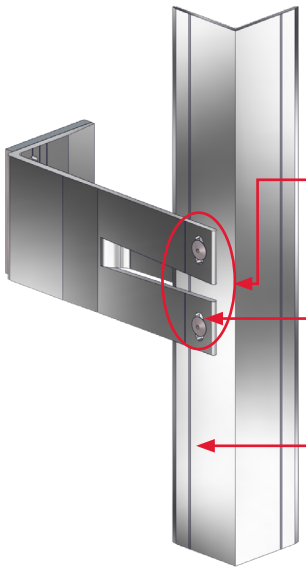
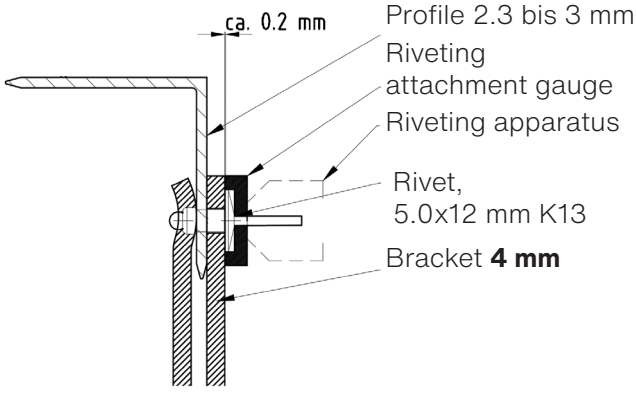
Fixed point

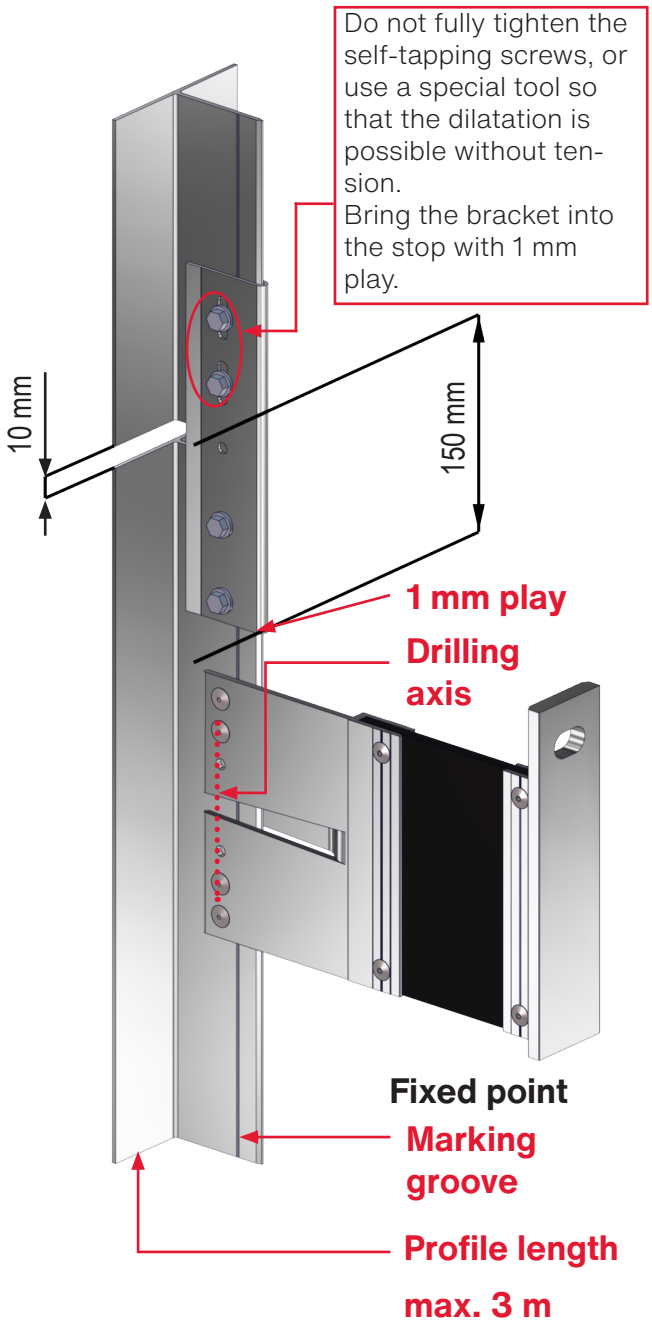


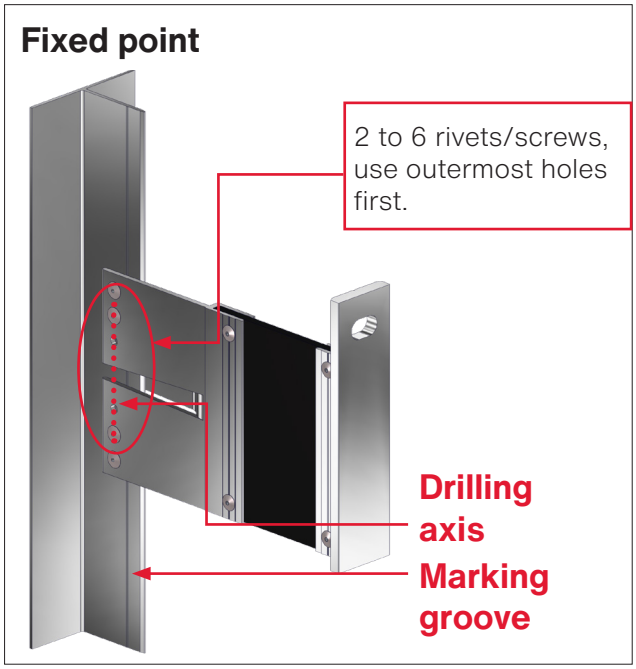
Sliding point

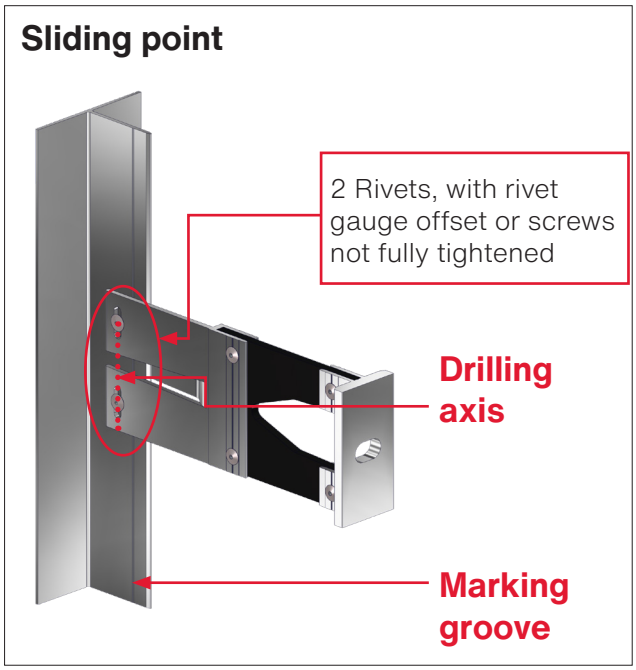


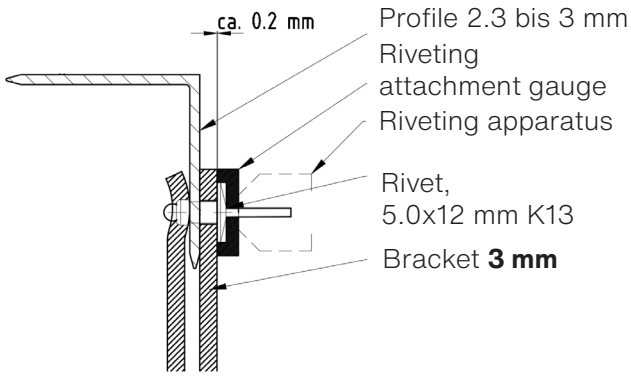


Ecolite® Thermo V Bracket



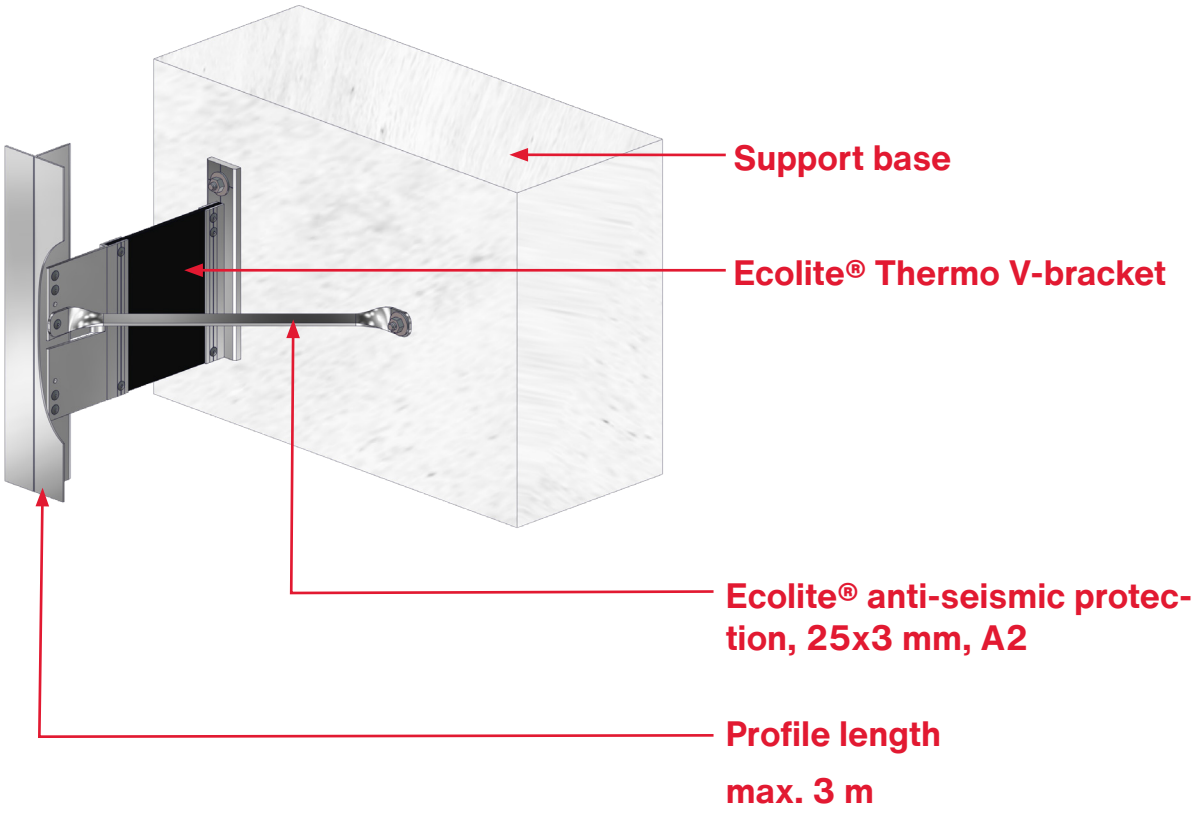




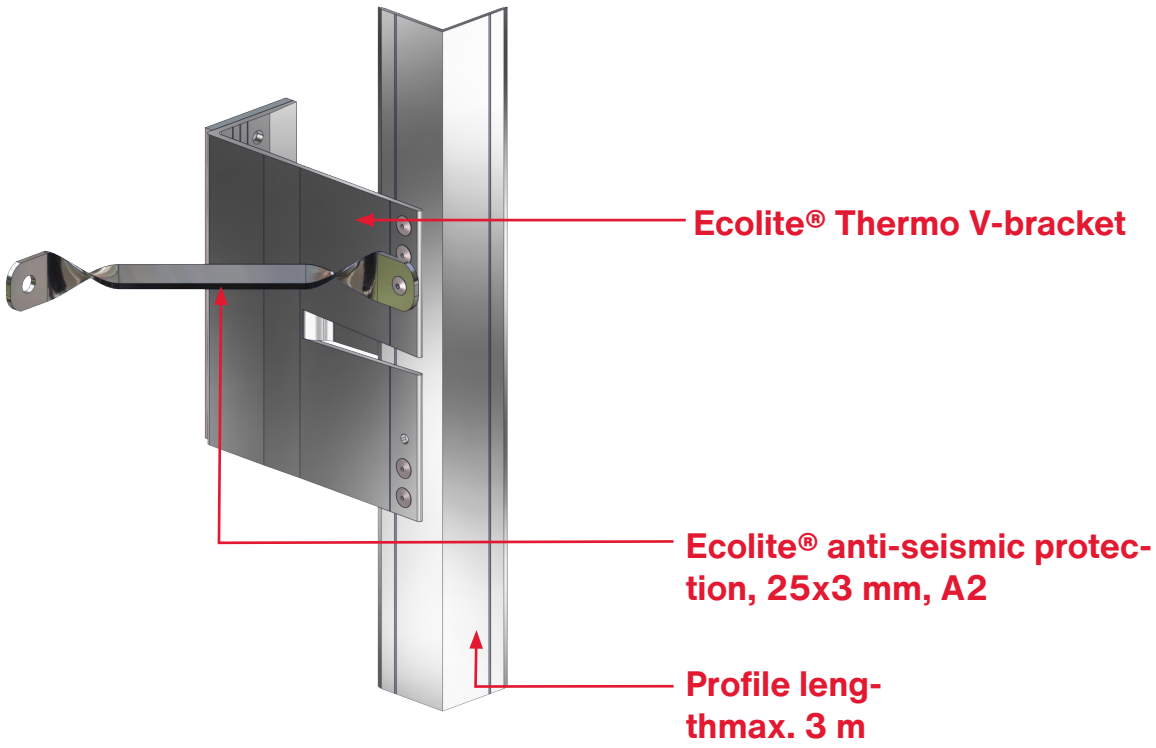


- Dilafoil joint min. 10 mm
- The marking groove of the profile must not be pulled out of the bracket further than the screw axis.
- Dilafuge, depending on bracket grid, max. 3 m profile length (approx. 15 to 20 cm next to the next bracket fixing point).

Ecolite® anti-seismic protection

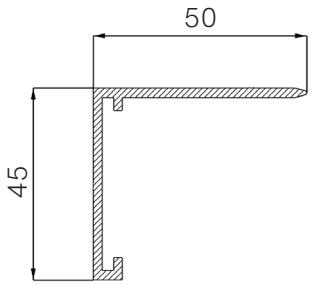


- anti-seismic protection in accordance with static requirements

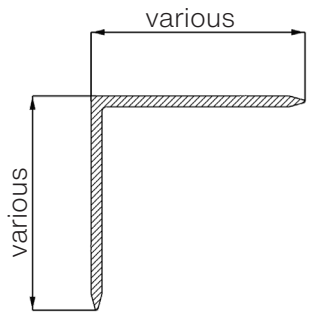


Profiles

Angle profiles



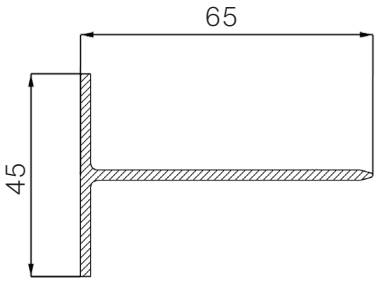
Ecolite® Angel profile MM
45x50x2.3 mm



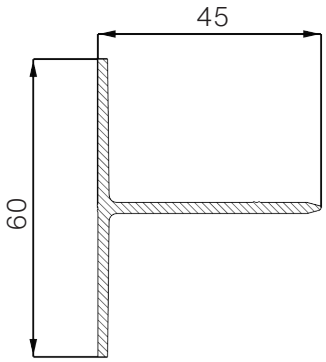
Ecolite® Angel profile

35x45x2.3 mm
40x30x2.0 mm
42x60x2.0 mm
45x45x2.0 mm
45x45x2.3 mm
45x60x2.3 mm
45x75x2.3 mm
60x70x2.3 mm

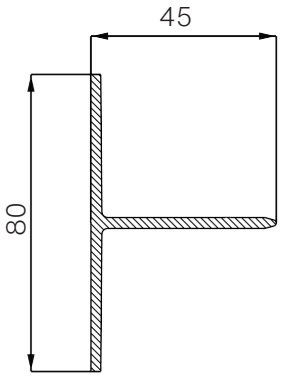
T-profiles



Ecolite® T-profile MM
45x65x2.3 mm



Ecolite® T-profile MM
45x60x2.3 mm

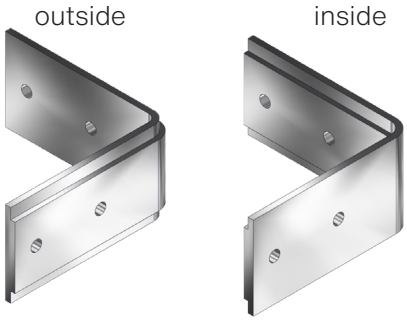


Ecolite® T-profile MM

80x50x2.3 mm
120x50x2.3 mm
130x50x2.3 mm
130x60x2.0 mm

profile connector

Ecolite® profile connector
39x4.5x145 mm



Ecolite® connection bracket
39x4.5x75/75 mm

Ecolite® U-profile connector
45x160x2.3 mm for profiles
2.0 mm, 2.3 mm

Ecolite® U-profile connector
45x160x3 mm for profiles
3.0 mm

Fastener

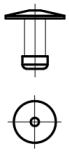
Preconditions

- The clamping length (KL) of the fasteners must correspond to the existing material thickness.
- For aligning the support profiles by means of a laser or similar, the profiles are to be fixed with clamping tongs.

Assembly

- Rivets: A drill hole with a diameter of 5.1 mm is required for setting the blind rivet.
- In the case of pre-punched slotted holes in the substructure, it is imperative that the rivet head is positioned on the side of the slotted hole or underlaid with an appropriate 20/5.1/2 mm washer.
- Sliding point rivets must be installed using a rivet gauge; in the case of screws, do not fully tighten them.
- The self-tapping screw may only be moved using a drill screwdriver with torque limiter.

Fastener



Stainless Steel Blind Rivet 5.0x10 mm
K13, with KL 4.0 - 6.0 mm

Stainless Steel Blind Rivet 5.0x12 mm
K13, with KL 6.0 - 8.0 mm

RV4-B5, Slide-fixed point drill screw, hexagonal head with pressed-on washer, 5.0 x 19 mm, SW 8, stainless steel A4, blank

Special tool

A holding bit for setting sliding point screws can be provided to match the sliding fixed point drill screw.

Riveting gauge

Riveting gauge for riveting the sliding point brackets.

General notes

- The SIA standards 261, 179 and 160 (effects on load-bearing structures) are authoritative for the static calculation of the substructure. In the following cases, a chargeable and binding structural analysis is required for the design of the substructure including façade cladding:
  - According to the relevant SIA component standards:
    If the failure of a façade poses a direct danger to persons, proof of structural safety must be provi ded.
  - At the request of the client and/or the architect.
  - For critical substrates, for buildings that are exposed to high loads or within the scope of guaran tee obligations.
- To prepare a structural analysis for substructures on brick or other unknown substrates, either the 10 ullout tests of the anchoring means required according to SFHF must be carried out and evaluated or a permissible pull-out value specified by the anchor manufacturer must be taken into account.

- Dilatation: Aluminium changes its length with temperature fluctuations, which is called dilatation. A profile of 1000 mm length at +20°C shortens to 999 mm at -20°C and lengthens to 1001 mm at +60°C.
  To prevent the dilatation from causing stresses and cracking noises, dilatation joints are necessary between individual profiles and sliding points are indispensable for some of the brackets.

- The following guidelines and brochures of the SFHF Association apply:
  - Guideline for the planning and execution of ventilated curtain facades.
  - Guideline, tolerances and assessment rules for ventilated curtain walls.
  - TECINFO brochures on individual specialist topics.

  All documents can be obtained via the SFHF homepage www.sfhf.ch.

- If required, instructions can be given before the start of construction and on-site assessments and acceptances can be arranged during construction or after completion of the work.

Disclaimer

This processing guideline does not claim to be complete and does not release the processor from assuming full responsibility for the creation of the complete work.

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