# Tender Specification

## Specification Puro Plus

The façade is cladded with decorative Puro Plus fibre cement flat panels. Puro Plus panels are manufactured from a homogeneous mixture of Portland cement, selected reinforcement fibres, additives and water. This mixture is transmitted in thin layers under constant pressure to a format roller by means of a sieve cylinder machine (Hatschek) until the required panel thickness is obtained. The panels are double pressed and harden at least 4 weeks at air before they are extra dried to avoid crimp.

The Puro Plus panels are natural grey, calibrated and lightly sanded panels. During the sanding a discrete line-pattern is formed.

The decorative flat panels are conform EN 12467 and are CE-marked.

The application of the panels in cladding, conform the prescription for products of family 9 according to ETAG 034-1, is covered by an 'European Technical Assessment' ETA.

Panel dimensions:

- 2535 mm x 1235 mm, non- squared.

- 3085 mm x 1235 mm, non-squared.

- 2520 mm x 1220 mm, squared.

- 3070 mm x 1220 mm, squared.

- Thickness: 8 mm

Tolerances: Tolerance Level I

Length - Width a: ± 1,5 mm

Straightness edges: 0,1 % a

Squareness edges: 2 mm/m

Thickness e : +/- 0,8 mm

The decorative flat fibre cement panels have following physical and mechanical properties:

Density - oven dry: min. 1.700 kg/m³

Bending strength: class 4 (min. 18 MPa)

Modulus of Elasticity (wet): 14.000 MPa

Moisture movement (30-90 %): 1,2 mm/m

Moisture movement (30-90 %)//: 1,0 mm/m

Durability: Class A

Water impermeability: complies with the norm

Resistance to frost: complies with the norm

Reaction to fire: class A2-s1, d0 (EN 13501-1)

Weight ± 14,6 kg/m²

Amount = ....m² EP = .... GP = ....

## Execution of the Puro Plus façade panel

### TIMBER SUB-FRAME – VISIBLE FIXATION – SCREWS

During transport, storage, manipulation and installing of the façade panels, the technical prescriptions of the fabricant and the specifications of the ETA-assessment are followed precisely.

The panels are fixated on the profiles with stainless steel screws.

Façade panel screw, timber screw with painted mushroom head Ø 12 mm, Torx impact nr. 20.

Material: quality A2 under normal circumstances, quality A4 in coastal areas or other areas exposed to an aggressive environment. Applicability to be confirmed by screw supplier.

Minimum dimension: 4,8 mm Ø x 38 mm (L).

Characteristics conform ETA 14/0284

The screw apertures in the panel must be pre-drilled with a Ø6,5 mm.

Always use wood that guarantees the required durability of the façade finishing. Use durable wood (natural durability or treated – cfr EN 335, EN 460 and EN 350-2). Use wood with strength class C24 (EN 338). Only use wood that is clean, dry (moisture max. 18%), dust- and grease-free

The screw apertures in the panel have a diameter of 6,5 mm. Apply the screws perpendicular to the panel surface in order to obtain a tension free fixation.

Put a EPDM joint strip on the battens.

The panels are placed with an joint of 8 mm.

### TIMBER SUB-FRAME – INVISIBLE FIXATION – BONDING

During transport, storage, manipulation and installing of the façade panels, the technical prescriptions of the fabricant and the specifications of the ETA-assessment are followed precisely.

The panels are fixated on timber sub-frame with permanent elastic bonding system.

The subframe consist of untreated planed timber. Always use wood that guarantees the required durability of the façade finishing. Use durable wood (natural durability or treated - cfr EN 335, EN 460 and EN 350-2). Use wood with strength class C24 (EN 338). Only use wood that is clean, dry (moisture max. 18%), dust- and grease-free.

The battens need to be treated correctly, the timber must be primed to ensure a good adhesion

Use a bonding system specifically developed for the installation of façade cladding panels.

The bonding system is applied so that it can support the weight of the panel, the hygro-thermal movement of the panels and all external loads in a safe and durable way.

SVK facade panels must only be attached with a bonding system that is compatible both with the sub-frame and the specific facade panel.

The suitability of the bonding system needs to be proven sufficiently (certificate of approval by an independent institution or equivalent).

Follow carefully the processing instructions of the manufacturer.

The panels are placed with an joint of 8 mm.

### Aluminum – VISIBLE FIXATION – RIVETS

During transport, storage, manipulation and installing of the façade panels, the technical prescriptions of the fabricant and the specifications of the ETA-assessment are followed precisely.

Façade panels on metal battens are fixated with rivets. Use a aluminum sub-frame system specifically developed for the installation of façade cladding panels.

Rivet with wide lacquered head Ø16 mm.

Material: Quality A2 under normal circumstances, quality A4 in coastal areas or other areas exposed to an aggressive environment. Applicability to be confirmed by rivet supplier.

Minimum dimensions: 4,8 mm Ø x 16 mm (L).

Characteristics conform ETA 14/0284

Always use a blind rivet with appropriate clamp reach adjusted to the thickness of the facade sheet and the profiles.

The rivet apertures in the panel must be pre-drilled with a 6,5 mm diameter for the sliding points and 5 mm for the fixed points.

The panels are placed with an joint of 8 mm.

### Aluminum – INVISIBLE FIXATION - BONDING

During transport, storage, manipulation and installing of the façade panels, the technical prescriptions of the fabricant and the specifications of the ETA-assessment are followed precisely.

The panels are fixated on aluminum sub-frame with permanent elastic bonding system. Use a bonding system specifically developed for the installation of façade cladding panels.

The bonding system is applied so that it can support the weight of the panel, the hygro-thermal movement of the panels and all external loads in a safe and durable way.

SVK facade panels must only be attached with a bonding system that is compatible both with the sub-frame and the specific facade panel. The suitability of the bonding system needs to be proven sufficiently (certificate of approval by an independent institution or equivalent).

Follow carefully the processing instructions of the manufacturer.

The panels are placed with an joint of 8 mm.

### Aluminum – INVISIBLE FIXATION – INVISIBLE MECHANICAL FIXATION

During transport, storage, manipulation and installing of the façade panels, the technical prescriptions of the fabricant and the specifications of the ETA-assessment are followed precisely.

Façade panels on the metal sub-frame are installed using tension free undercut anchor, socket cap screw and washer from the firm Keil. Use a aluminum sub-frame system specifically developed for the installation of façade cladding panels.

Depth of the anchor in the panel is 5,5 mm.

Material: stainless steel, quality A4

Type: KH (hs 5,5 M6).

Characteristics conform ETA 14/0284

The panels are placed with an joint of 8 mm.

### Metal – VISIBLE FIXATION – Screws

During transport, storage, manipulation and installing of the façade panels, the technical prescriptions of the fabricant and the specifications of the ETA-assessment are followed precisely.

Façade panels on metal battens are fixated with screws. Use a metal sub-frame system specifically developed for the installation of façade cladding panels.

Screw with wide lacquered head Ø16 mm.

Material: Quality A2 under normal circumstances, quality A4 in coastal areas or other areas exposed to an aggressive environment. Applicability to be confirmed by screw supplier.

Minimum dimensions: 4,8 mm Ø x 25 mm(L).

Characteristics conform ETA 14/0284

Always use a screw with appropriate reach adjusted to the thickness of the facade sheet and the profiles.

The screw apertures in the panel must be pre-drilled with a 6,5 mm diameter for the sliding points and 5 mm for the fixed points.

The panels are placed with an joint of 8 mm.