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Authorised and notified according to Article 29 of the Regulation (EU) No 305/2011 of the European Parliament and of the Council of 9 March 2011



# European Technical Assessment ETA-17/0312 of 2025/08/20

I General Part

**Technical Assessment Body issuing the ETA and designated according to Article 29 of the Regulation (EU) No 305/2011:** ETA-Danmark A/S

| | |
|---|---|
| **Trade name of the construction product:** | Petersen Cover ventilated facade system |
| **Product family to which the above construction product belongs:** | Kits for external wall cladding |
| **Manufacturer:** | Petersen Tegl A/S<br>Nybolnorvej 14<br>DK-6310 Broager<br>Tel. +45 7444 1236<br>Internet www.petersen-tegl.dk |
| **Manufacturing plant:** | Petersen Tegl A/S<br>Nybolnorvej 14<br>DK-6310 Broager |
| **This European Technical Assessment contains:** | 12 pages including 2 annexes which form an integral part of the document |
| **This European Technical Assessment is issued in accordance with Regulation (EU) No 305/2011, on the basis of:** | European Assessment Document (EAD) No. 090062-01-0404 Kits for external wall claddings mechanically fixed |
| **This version replaces:** | The ETA with the same number, issued on 2017-06-29 |

# II SPECIFIC PART OF THE EUROPEAN TECHNICAL ASSESSMENT

## 1 Technical description of product

The Petersen Cover façade tiles are handmade, fired at high temperatures and used as a cladding kit.

The Petersen cover tiles are fastened with screws to an underlying wooden or aluminum support construction. Each façade tile shall be fixed technically strain-free with at least two screws on a capable support construction.

The “Petersen Cover” are available in two different sizes. The tile with dimensions of 528 x 170 x 37 mm has at least two fixing holes. The size with dimensions 528 x 240 x 37 mm has at least two fixing holes. The tiles are tested in accordance with EN 1304 and the performances of the tiles are declared in accordance with the standard. See Annex A.

This kit is classified as family A, according to the EAD 090062-01-0404 Kits for external wall claddings mechanically fixed, table 1.1.1.

## 2 Specification of the intended use(s) in accordance with the applicable European Assessment Document (hereinafter EAD)

Petersen Cover cladding kit is intended for use on both new and existing (refurbishment) external walls.

The tiles are fixed to aluminium profiles with the self-tapping screw EJOT JT3-ST-2-6.0x60 and to timber battens with timber screw SPAX T-STAR plus 5x60/37 A2 KP. The aluminium profiles are at least alloy AW 6060 T66 with a wall thickness of 2 mm. The timber battens are at least strength grade C24 and sorting grade S10 TS.

The fasteners are drilled to the substrate with an assembly torque of 5.0 Nm.

See annex B for specifications of the wood and aluminium framework.

Petersen Cover is a non-load-bearing system. It does not contribute to the stability of the wall on which it is installed, neither to ensure the air tightness of the building structure. It can contribute to the thermal performance of the building and provide enhanced protection from the effect of weathering.

The verification and assessment methods on which this European Technical Assessment is based lead to the assumption of a working life of 25 years, when installed in the works, provided that the cladding kit is subject to appropriate installation.

The indications given as to the working life of the construction product cannot be interpreted as a guarantee neither given by the product manufacturer or his representative nor by the Technical Assessment Body issuing an ETA based on the EAD 090062-01-0404-v01 but are regarded only as a means for expressing the expected economically reasonable working life of the product.

# 3 Performance of the product and references to the methods used for its assessment

| Characteristic | Assessment of characteristic |
|---|---|
| **3.2 Safety in case of fire (BWR 2)** | |
| Reaction to fire | The clay tiles are classified as **Euroclass A1** in accordance with EN 13501-1 and Delegated regulation 2016/364 with no need for further testing according to Decision 96/603/EC.<br><br>Components not part of the kit, but specified in annex B:<br><br>**Component** / **Classification** / **Reference Standard**<br>Timber / D-s2, d0 / Acc. to CWFT decision<br>Aluminium / A1 / EN 13501-1 and Delegated Regulation 2016/364<br>Steel components / A1 / EN 13501-1 and Delegated Regulation 2016/364 |
| Façade fire performance | **No performance assessed** |
| Propensity to undergo continuous smouldering | **Not relevant** |
| **3.3 Hygiene, Health and the Environment (BWR 3)** | |
| Watertightness of joints | **Not watertight** |
| Water absorption | **No performance assessed** |
| Water vapour permeability (for non-ventilated façades) | **Not relevant** |
| Drainability | **Drainable,** see figures in annex B |
| Content, emission and/or release of dangerous substances | **No performance assessed** |
| **3.4 Safety in use (BWR4)** | |
| Wind load resistance | **No performance assessed** |
| Resistance to horizontal point loads | **No performance assessed** |
| Impact resistance | **No performance assessed** |

| Characteristic | Assessment of characteristic |
|---|---|
| Bending strength | Petersen Cover façade tiles with the dimensions of 528 x 170 x 37 mm with support spacing of 350 mm reach an average bearing capacity in bending of 2.23 kN. With the same spacing of supports, an average bearing capacity in bending of 3.53 kN was measured for the "Petersen Cover" façade tile with the dimensions of 528 x 240 x 37 mm. This gives bending stresses of:<br>$\sigma_{B,h=17cm} = \frac{M}{W} = \frac{6 * F * l}{4 * b * h^2} = \frac{6 * 2230\ N * 350\ mm}{4 * 528\ mm * 19\ mm^2} = 6{,}42\ N/mm^2$<br>$\sigma_{B,h=24cm} = \frac{M}{W} = \frac{6 * F * l}{4 * b * h^2} = \frac{6 * 3530\ N * 350\ mm}{4 * 528\ mm * 19\ mm^2} = 9{,}72\ N/mm^2$ |
| Resistance to long term or permanent dead load | **Not relevant** |
| Pull-through resistance | See table below |
| Pull-through resistance under shear loads | See table below |
| Combined tension and shear load resistance | **Not relevant** |
| Resistance of profiles | **No performance assessed** |

| Characteristic | Mean Value | Variation coefficient | $F_{R,k}$ |
|---|---|---|---|
| | [N] | [%] | [N] |
| Pull-through resistance of cladding element with EJOT JT3-ST-2-6,0x60 | 6.527 | 13,65 | 4.817 |
| Pull-through resistance of cladding element with SPAX T-STAR plus 5x60/37 A2 KP | 6.755 | 16,67 | 4.593 |

| Characteristic | Mean Value | Variation coefficient | $F_{R,k}$ |
|---|---|---|---|
| | [N] | [%] | [N] |
| Pull-out resistance of fixings from profiles; EJOT JT3-ST-2-6,0x60 and aluminium support construction | 4.268 | 12,26 | 3.264 |
| Pull-out resistance of fixings from profiles; SPAX T-STAR plus 5x60/37 A2 KP and wooden support construction | 3.466 | 9,56 | 2.830 |

| Characteristic | Mean Value | Variation coefficient | $F_{R,k}$ |
|---|---|---|---|
| | [N] | [%] | [N] |
| Resistance to vertical load | 5.713 | 13,63 | 4.218 |

| Characteristic | Assessment of characteristic |
|---|---|
| Tension/pull-out resistance of subframe fixings | **No performance assessed** |
| Shear load resistance of subframe fixings | **No performance assessed** |
| Bracket resistance (horizontal and vertical load) | **No performance assessed** |
| Resistance to seismic loads. Out-of-plane fundamental vibration period | **No performance assessed** |
| Resistance to seismic loads. Out-of-plane acceleration | **No performance assessed** |
| Resistance to seismic loads. In-plane displacement | **No performance assessed** |
| **3.5 Protection against noise (BWR5)** | |
| Airborne sound insulation | **No performance assessed** |
| **3.6 Energy economy and heat retention (BWR6)** | |
| Thermal transmittance | **No performance assessed** |
| **3.7 Aspects of durability** | |
| Hygrothermal behaviour | **No performance assessed** |
| Behaviour after pulsating load | **No performance assessed** |
| Freeze-thaw resistance | **No performance assessed** |
| Behaviour after immersion in water | **No performance assessed** |
| Dimensional stability by humidity | **No performance assessed** |
| Linear thermal expansion | **No performance assessed** |
| Chemical and biological resistance | **No performance assessed** |
| UV Radiation resistance | **No performance assessed** |
| Corrosion | **No performance assessed** |
| Accelerated ageing behaviour of kits when the cladding element is made of thin metallic composite sheets/panels (TMCS/TMCP) | **Not relevant** |

See additional information in sections 3.8 and 3.9

**3.8 Aspects of durability and serviceability**

Aspects of durability & serviceability relate primarily to cladding performances. The tiles have been tested in accordance with EN 1304, and the performances are declared in accordance with the standard, see annex A.

**3.9 General aspects related to the performance of the product**

The product is fully covered by EAD 090062-01-0404. According to the Regulation (EU) No 305/2011.

The European Technical Assessment is issued for the product based on agreed data/information, deposited with ETA-Danmark, which identifies the product that has been assessed and judged. Changes to the product or production process, which could result in this deposited data/information being incorrect, should be notified to ETA-Danmark before the changes are introduced. ETA-Danmark will decide if such changes affect the ETA and consequently the validity of the CE marking based on the ETA and if so whether further assessment or alterations to the ETA, shall be necessary.

The cladding kits are manufactured in accordance with the provisions of this European Technical Assessment using the manufacturing processes as identified in the inspection of the plant by the notified inspection body and laid down in the technical documentation.

The actual construction design and material specification must be based on project specific parameters. The partial safety factor for the material is recommended with $\gamma_M$ = 2,0 However, the combined effects of wind, weight, pull-out strength, surface friction, and national safety factors require additional safety factors to be used in some design cases.

Further design consideration should be given to following factors:

- The mechanical characteristic values of the kit components (tiles, cladding fixings and subframe) in order to resist the actions applying on the specific work.
- National safety factor must be used.
- The substrate material to define the suitable anchorages.
- The possible movements of the substrate and the position of the building expansion joints.
- The possible dilation of the kit components and of the panels.
- The category of corrosivity of the atmosphere of the works.

# 4 Assessment and verification of constancy of performance (hereinafter AVCP) system applied, with reference to its legal base

## 4.1 AVCP system

According to the decision 2003/640/EC of the European Commission, as amended, the system(s) of assessment and verification of constancy of performance (see Annex V to Regulation (EU) No 305/2011) is System 2+.

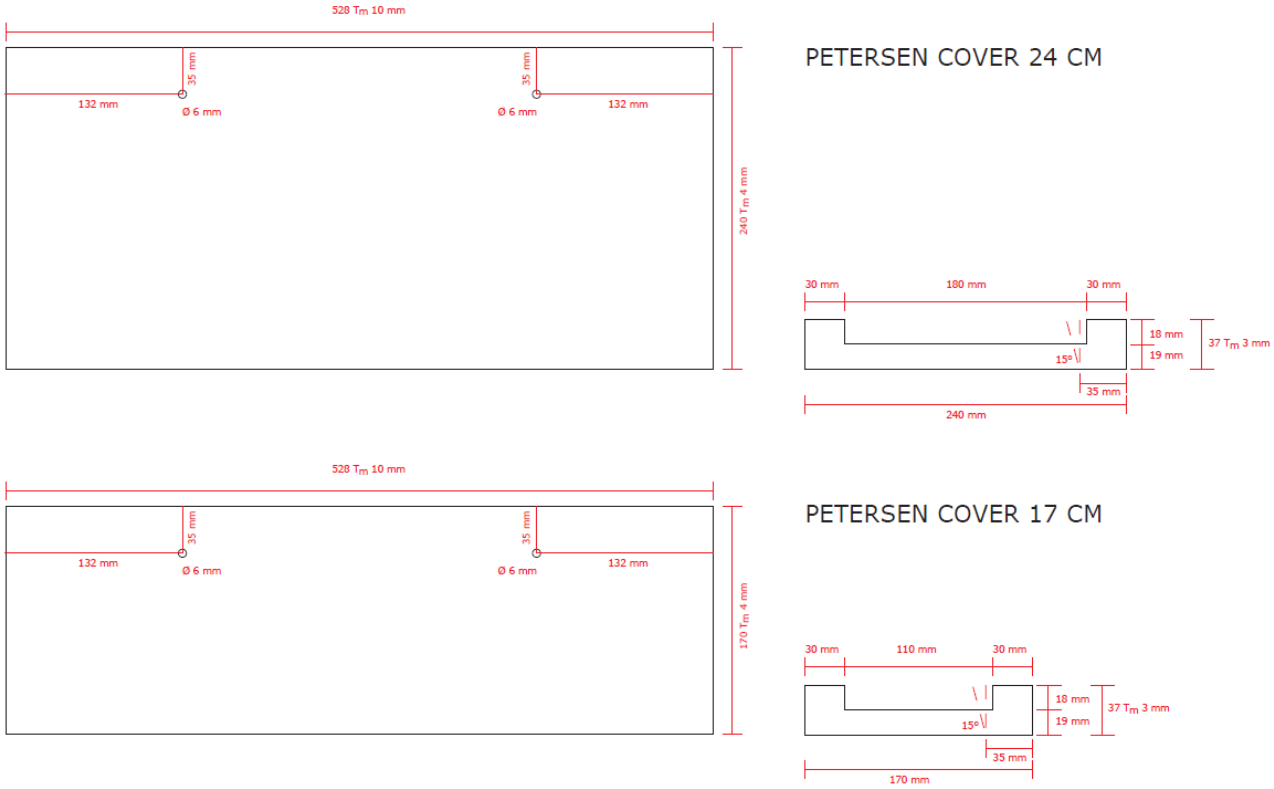
# 5 Technical details necessary for the implementation of the AVCP system, as provided for in the applicable EAD

Technical details necessary for the implementation of the AVCP system are laid down in the control plan deposited at ETA-Danmark prior to CE marking

Issued in Copenhagen on 2025-08-20 by

Thomas Bruun
Manager, ETA-Danmark

**Annex A**
**Product specification**
**Tiles in accordance with EN 1304**




**Characteristics of the tiles:**

The tiles comply with the requirements for impermeability for category 1 tested after method 2 in EN 1304
The tiles comply with the requirements for frost resistance according to method E in EN 1304 after 150 cycles, level 1 in EN 1304
The tiles comply with the requirements for flexural strength subjected to a load of at least 1200 N. The bending strength for 528 x 170 x 37 mm tiles with support spacing of 350 mm is 2,23 kN and for 528 x 240 x 37 mm tiles with support spacing of 350 mm is 3,53 kN

The behavior after pulsating loads is considered covered by the wind load test

The behavior after immersion in water, dimensional stability (by temperature and by humidity), chemical and biological resistance, UV radiation resistance and corrosion of metal components are considered not to be relevant and have not been assessed.

**Wind load resistance of the tiles**

Mechanical resistance against wind suction resistance has been determined taking into account the mechanical resistance of components (see below) and wind suction tests on the basis of EN 14437.

The maximum permissible deflection for the Petersen Cover with the dimensions 528 x 240 x 37 mm:

$$d_{max} = \frac{75 * l_h}{400} = \frac{75 * 240}{400} = 45 \text{ mm}$$

Where $l_h$ is the hanging length of the tile in mm.

Lifting resistance of "Petersen Cover" 528 x 170 x 37 mm:

$$\mathbf{R_{(\alpha)}} = m_{fixing} * R_{k,f} + W_k * \frac{\cos\alpha}{\cos(0°)} = 2 * \frac{464}{2} + 42 * \frac{\cos(73°)}{\cos(0°)} = \mathbf{433\ N}$$

Lifting resistance of "Petersen Cover" 528 x 240 x 37 mm:

$$\mathbf{R_{(\alpha)}} = m_{fixing} * R_{k,f} + W_k * \frac{\cos\alpha}{\cos(0°)} = 2 * \frac{464}{2} + 63 * \frac{\cos(78°)}{\cos(0°)} = \mathbf{410\ N}$$

With:

$R_{(\alpha)}$ the average resistance of partially or completely fixed tiles with a slope α per tile;
$m_{fixing}$ the average number of fixings per tile;
$R_{k,f}$ the characteristic lifting resistance of each fixing according to E.1 in EN 14437 in N;
$W_k$ the theoretical force required for the lifting of an unfixed tile from the battens with a slope of 0° according to E.1 in EN 14437;
α the slope.

The following wind suction force resistance capacities are derived from the determined lifting resistance depending on the surface area of the façade tile:

Wind force resistance capacity of "Petersen Cover" 528 x 170 x 37 mm:

$$\mathbf{R_{ws}} = \frac{0{,}433\ \text{kN}}{0{,}528 * 0{,}17} = \mathbf{4{,}8\ kN/m^2}$$

Wind force resistance capacity of "Petersen Cover" 528 x 240 x 37 mm:

$$\mathbf{R_{ws}} = \frac{0{,}410\ \text{kN}}{0{,}528 * 0{,}24} = \mathbf{3{,}2\ kN/m^2}$$

**Annex B**
**Build-up of cladding kits with aluminium profiles and timber battens**

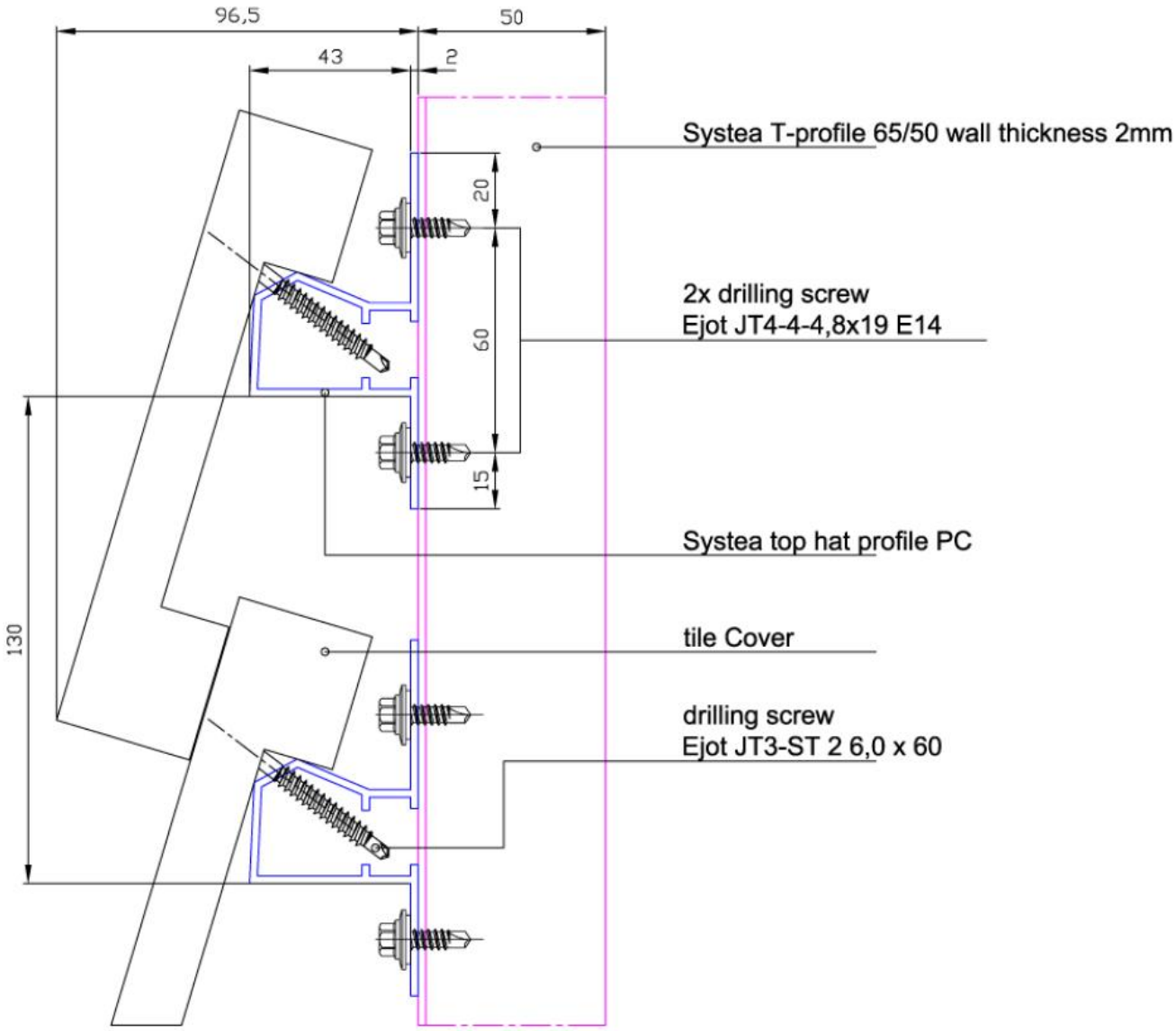



**Figure B.1: Assembly items aluminum support construction**

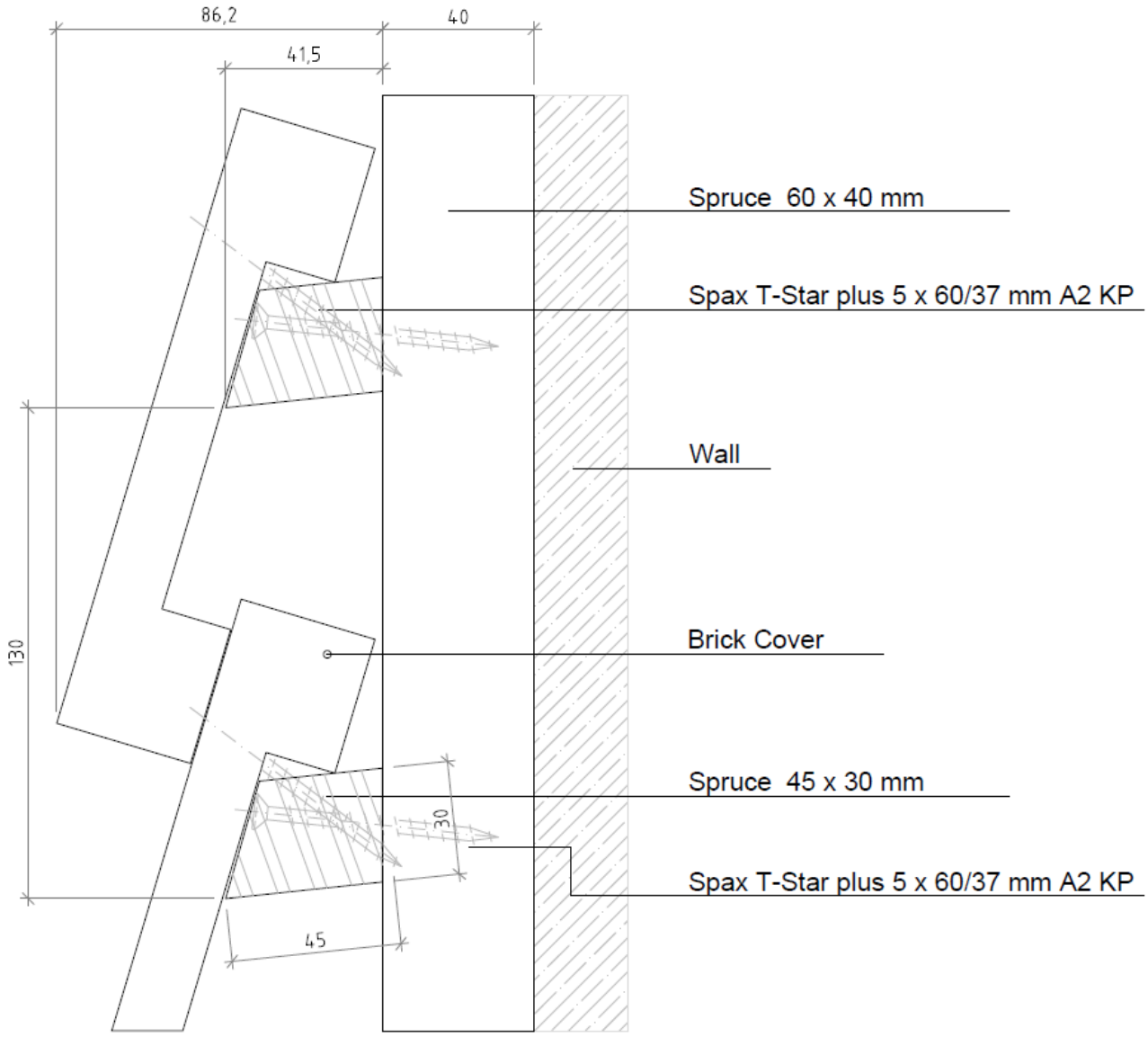



**Figure B.2: Assembly with timber support construction**