

Statement on fire resistance of an eave structures made of PAROC FireSAFE PR 30 stonewool boards

Requested by Paroc Oy Ab
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Organization undertaking statement

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Statement on fire resistance of an eave structures made of PAROC FireSAFE PR 30 stonewool boards

Task The client asks a statement on fire resistance of eave structures made of PAROC FireSAFE PR 30 stonewool boards. The structures shall fulfill the requirements of EI 30 fire classification. The structures are presented in the drawings of Annex 1.

Background The statement is based on the following documents delivered by the client:

1. Test report VTT-S-477-10, Fire resistance test on a non-loadbearing, asymmetrical 30 mm thick stone wool wall with timber studwork, VTT Expert Services, 15. February 2010.
2. Statement VTT-S-6580-10, VTT Expert Services, 26.8.2010.

Following document is also used in the statement:

3. Standard EN 13501-2:2016 "Fire classification of construction products and building elements. Part 2: Classification using data from fire resistance tests, excluding ventilation services.

Test report VTT-S-477-10:

Fire resistance test results of a non-loadbearing, asymmetric, separating wall made of 30 mm thick stone wool slabs and fixed on the unexposed side of timber studwork 43 mm x 68 mm are presented. The wall slabs were manufactured of a double layered (15 mm thick each), glued and rebated stone wool slabs with the size of 600 mm x 1800 mm. The slabs were fixed with screws to timber studs and with Seja screws to each other. Nominal density of stone wool is 220 kg/m³.

The height of the specimen was 3000 mm and max distance of vertical studs 2400 mm.

The test was performed on 15. January 2010 according to standard *EN 1364-1:2018 "Fire resistance tests for non-loadbearing elements – Part 1: Walls"*. The test specimen fulfilled fire resistance requirements for integrity (E) and insulation (I) during the time of 32 min. Test time was 34 min.

Statement VTT-S-6580-10:

The statement concerns wall construction made of the same fireboards as tested in test report VTT-S-477-10 and used as a firestop in an attic when fire resistance requirements are EI 30.

Analysis

According to client 30 mm thick PAROC FireSAFE PR 30 stonewool is the same product which is used for a tested non-loadbearing, separating wall construction (test report VTT-S-477-10).

The tested non-loadbearing, asymmetric, separating wall made of 30 mm thick stone wool slabs and fixed on the unexposed side of timber studwork fulfilled fire resistance requirements for integrity (E) and insulation (I) during the time of 32 min. The height of the specimen was 3000 mm and max distance of timber studs 2400 mm. The performance criteria of integrity (sustained flaming) failed at the top edge of the wall. If the wall of an eave structure has timber frame at least equal size and the distance of studs is equal or smaller than the tested ones and if fixing of the insulation slabs is the same as in the test the fire resistance may be supposed to be equal or more than with the tested structure.

Fire exposure from underneath is more severe on a horizontal part of the eave or on the eave with a certain slope than on a wall. However stone wool boards are supported by timber battens more closely than in the test specimen. In addition the bottom surface of the eave is covered with sparse panelling.

Statement

On the basis of previous documents the eave structures made of 30 mm thick PAROC FireSAFE PR 30 stone wool boards presented in Annex 1 meet the fire resistance requirements of EI 30 presented in classification standard EN 13501-2:2016 when fire exposure is from inside of the attic to outside or from outside to inside of the attic in following conditions:

- Fixing system and distance of fasteners of stone wool boards shall be the same as tested.
- Distance of vertical studs for stone wool boards shall be max 2400 mm and distance of horizontal battens max 3000 mm as in the tested structure. The size of the studs and battens shall be at least the same as tested.
- Interface between the eave structure and surrounding structures shall be sealed with stone wool e.g. Paroc eXtra and Kiilto Fireproof 10.
- This statement doesn't cover penetrations. Effect of penetrations on fire resistance has to be assessed separately.

This statement does not represent type approval or certification of the product but it is an assessment on the fire resistance of an eave structure made of PAROC FireSAFE PR 30.

The statement is valid up to 1 October, 2029.

Espoo, 29.8.2024

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Appendicies

Appendix 1

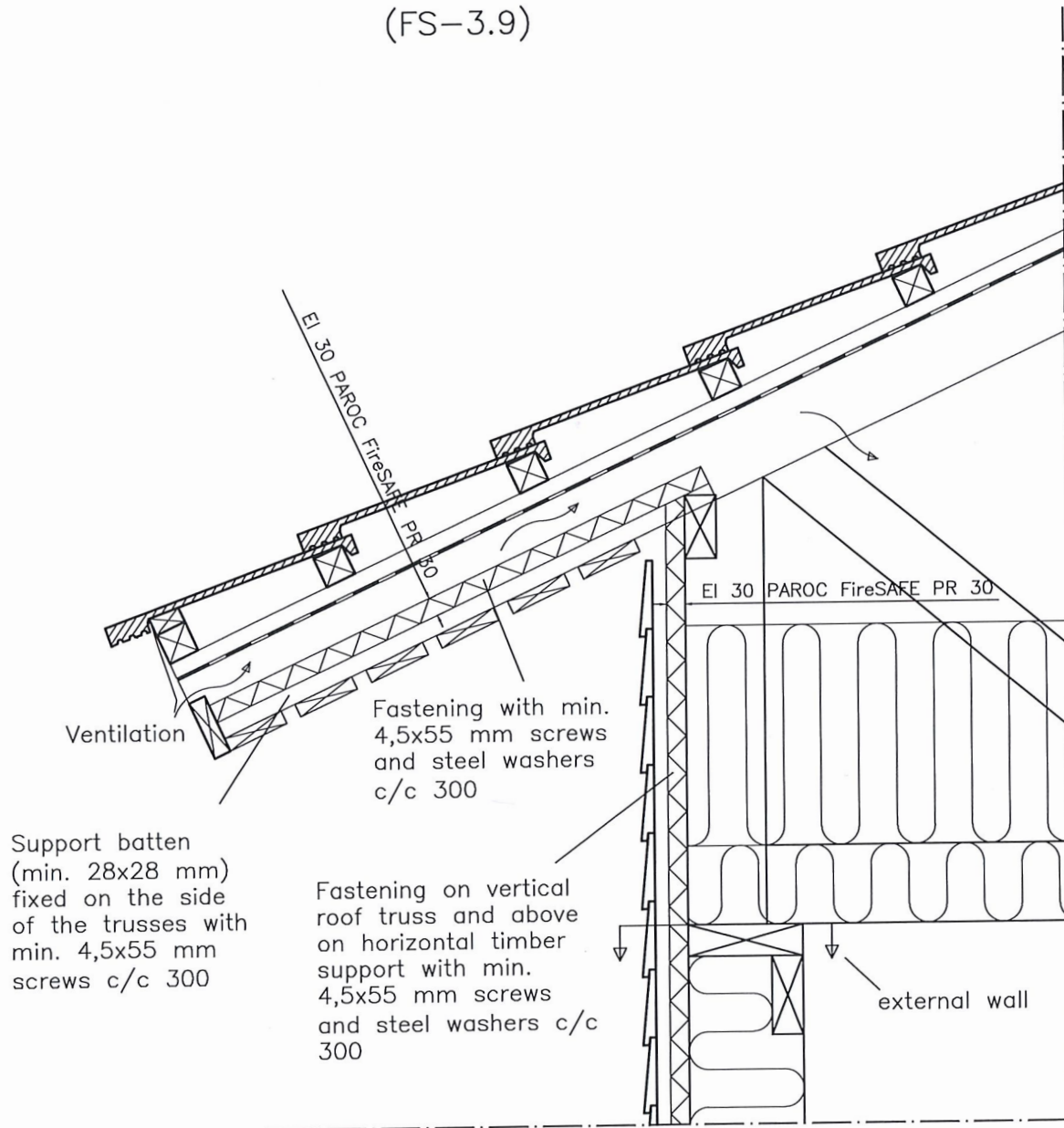
Drawings of an eave structure

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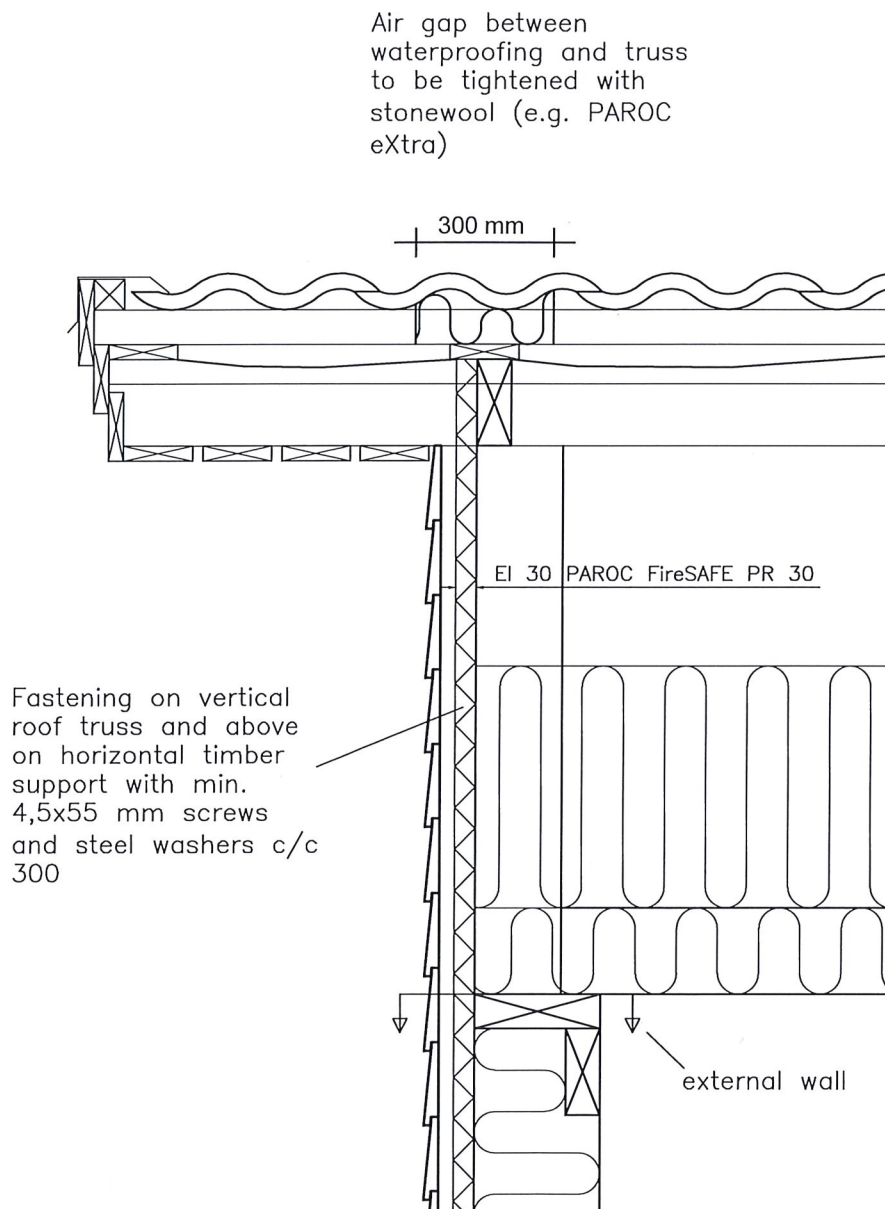
EI30 eave (FireSAFE PR 30)
– PRINCIPLE DRAWING
(FS-3.9)



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EI30 eave (FireSAFE PR
30) – PRINCIPLE DRAWING
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