

SHORT REPORT

Contract no: 2430/2015/02 – BB 09/12/2015
MAI/PIK

Customer: Stora Enso Wood Products GmbH
Brand 44
AT-3531 Brand

Subject: Renewal of the abridged report (contract no.: 1720/2011/02) on the fire resistance REI 90/EI 90 according to EN 13501-2 of "Stora Enso CLT" as load-carrying cross-laminated timber wall elements ≥ 80 mm, planked with plaster boards.

Date of contract: 30/09/2015 (email)

Date of sample delivery: --

Date/Period of service: November 2015

Period of validity: December 2015 to December 2020

Pages: 5

Enclosures: --

1. Contract

With the email dated 30/09/2015, the company Stora Enso Wood Products GmbH, AT-3531 Brand, commissioned Holzforschung Austria to renew the abbreviated report with classification note (contract no.: 1720/2011/02) on the fire resistance REI 90/EI 90 according to EN 13501-2 of "Stora Enso CLT" as load-carrying cross-laminated timber wall elements ≥ 80 mm, planked with plaster boards.

The abridged report is based on the classification report 2430/2015/02 of Holzforschung Austria. Nothing was changed on the structures and the making of the cross-laminated timber elements in comparison with the tested structures from 2011.

The original report shall be valid in case of any discrepancies.

2. Area of application

The classification of the wall elements is based on ideal load conditions without pre-buckling deflection, the static system of the test configuration roughly represents Euler problem 2 with a certain restraining effect of the ceiling.

The classification was carried out in compliance with section 7.3.2. of ÖNORM EN 13501-2.

2.1. Classification note

Table 1: Classification note for the components

Max. wall height: 3000 mm

Cladding room side	Installation level	Cross-laminated timber element	Test load $\hat{=}$ $E_{d,fi}$ in kN/m	Test report	Classification $i \rightarrow o$
12.5 mm GKF according to ÖNORM B 3410, DIN 18180 or type DF according to EN 520	---	CLT 100 C3s 100 mm (3s - 30 40 30) according to ETA-14/0349 AbZ [national technical approval]: Z-9.1-559	35	VFA – MA 39 2010-1377-02 VFA – MA 39 2010-1377-03	REI 90
12.5 mm GKF according to ÖNORM B 3410, DIN 18180 or type DF according to EN 520	---	CLT 100 C5s 100 mm (5s - 20 20 20 20 20) according to ETA-14/0349 AbZ: Z-9.1-559	35	VFA – MA 39 2010-1858-01 VFA – MA 39 2010-1377-02	REI 90
12.5 mm GKF according to ÖNORM B 3410, DIN 18180 or type DF according to EN 520	40 mm mineral wool according to ÖNORM EN 13162	CLT 100 C3s 100 mm (3s - 30 40 30) according to ETA-14/0349 AbZ: Z-9.1-559	35	VFA – MA 39 2010-1377-04	REI 90
2 x 15 mm GKF according to ÖNORM B 3410, DIN 18180 or type DF according to EN 520	---	CLT 80 C3s 80 mm (3s – 30 20 30) according to ETA-14/0349 AbZ: Z-9.1-559	---	VFA – MA 39 2010-1377-03 VFA – MA 39 2009-0495.08	EI 90

2.2. Assessment

Based on the tests in the scope of the research project "Fundamental studies on the fire resistance of timber structures", the following can be stated in coordination with the Austrian fire test centres MA 39 test, monitoring and certification centre of the City of Vienna VFA – laboratory for structural engineering and the IBS Institute for Fire Protection and Safety Research:

- minimum equivalent fire resistance with use of an additional wood wool panel ≥ 50 mm according to ÖNORM EN 13168 with plaster 15 mm on the side turned away from the fire
- minimum equivalent fire resistance with use of a gypsum fibre board according to ÖNORM EN 15283-2, or plaster board (GKF) according to ÖNORM B 3410, DIN 18180 or type DF according to EN 520
- minimum equivalent fire resistance with two layers of the GKF/GF planking
- minimum equivalent fire resistance with use of
 - Rock wool (according to ÖNORM EN 13162) density ≥ 30 kg/m³
 - Cellulose (according to ETA – 06/0076) density ≥ 50 kg/m³,
 - Hemp (according to ETA 98/0009) density ≥ 30 kg/m³,
 - Sheep wool (according to ETA 05/0021) or
 - Soft wood fibre (according to ÖNORM EN 13165) density ≥ 45 kg/m³ instead of glass wool according to ÖNORM EN 13162) density ≥ 11 kg/m³
- minimum equivalent fire resistance with arrangement of additional direct plankings or of additional plankings with installation levels on the inner surface of the room
- minimum equivalent fire resistance with use of different substructures (e.g. wooden slats directly, wooden slats on swivel bracket, spring rail or metal profiles) within installation levels on the interior side of the room
- minimum equivalent fire resistance with arrangement of additional direct plankings and/or additional installation levels or of façade elements on the side turned away from the fire
- minimum equivalent fire resistance with additional coats of paint, coatings or plasters
- The minor deviations of the thickness of the individual layers of the structures to be classified from the tested structures have no negative effect on the classifications in hand taking account of the determined fire resistance ratings and the verified test times.
- In case of a deviation of the element height and/or the load $E_{d,fi}$ from the tested general conditions, proof of the load-carrying capacity in case of fire according to EN 1995-1-2 can be furnished by way of calculation. The maximum torques, normal and transverse forces that are calculated on the same basis as the ones that resulted from the test load must not exceed the ones of the tested ones.

3. Validity

The validity of this abridged report is fixed to five years from December 2015 to December 2020.

This document is no type approval or certification of the product.

HOLZFORSCHUNG AUSTRIA



Dipl.-HTL-Ing.ⁱⁿ Irmgard Matzinger
Technical consultant



Dr. Martin Teibinger
Head of Unit

In case of dispute the original German version prevails. This translation is for information purposes only.