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FIRE CLASSIFICATION CERTIFICATE

No. PKO – 21 – 032/AO 204

for products

Interior load-bearing walls NOVATOP

based on U-07/21/AO 204

Order no.: Z 080200092.1

Registration No.: 080 - 024061

Applicant: AGROP NOVA a.s.

Ptenský Dvorek 99

798 43 Ptení



The document consists of 5 pages

Number of issues: 3

Issue number: 1

1. Introduction

- 1.1. This fire classification certificate determines the classification of load-bearing wooden walls in accordance with the use of direct application of the test results in conjunction with other compositions and procedures specified in ČSN EN 13501-2.
- 1.2. This fire classification certificate consists of 5 pages and can only be used as a whole.
- 1.3. Normative supporting documents:
 - a) ČSN 73 0810: Fire safety of buildings – Common provisions (7/2016)
 - b) ČSN EN 1363-1: Fire resistance testing — Part 1: Essential requirements (7/2020)
 - c) ČSN EN 1363-2: Fire resistance testing — Part 2: Alternative and complementary procedures (2/2000)
 - d) ČSN EN 1365-1: Fire resistance testing of load-bearing elements — Part 1: Walls (5/2000)
 - e) ČSN EN 1365-1: Fire resistance testing of load-bearing elements — Part 1: Walls (3/2013)
 - f) ČSN 73 0821 version 2 - Fire resistance of building structures (5/2007)
 - g) ČSN EN 13501-1: Fire classification of construction products and building structures — Part 1: Classification according to the results of reaction-to-fire tests (9/2019)
 - h) ČSN EN 13 501-2+A1: Fire classification of construction products and building structures — Part 2: Classification according to the results of fire resistance tests except for air-conditioning equipment. (8/2017)
 - i) ČSN 73 0540-3 - Thermal protection of buildings – Part 3: Design values of quantities (11/2005)
 - j) ČSN EN 1995-1-2: Eurocode 5: Designing wooden structures - Part 1-2: General rules — Designing structures pursuant to effects of fire (12/2006)

2. Detailed information on the classified product

2.1. Function type

According to definition of the principal, the products are used as load-bearing wooden walls with the required fire resistance. The function of the structure is to resist fire with regard to the characteristics of the fire resistance properties specified in ČSN EN 13501-2 Article 5.

2.2. Product description

Load-bearing wall structures are assessed. Educued load 20 kN.m^{-1} or lower.

2.2.1. Load-bearing inner walls made of NOVATOP "B" panels thickness 84 mm (fig. 1), "C" thickness 124 mm (fig. 2) consist of the following component parts – solid wood thickness $2 \times 42 \text{ mm} = 84 \text{ mm B}$; $(2 \times 62 \text{ mm} = 124 \text{ mm} - \text{C})$

2.2.2. NOVATOP load-bearing walls 104 mm thick consist of the following component parts:

- Gypsum fibre board Fermacell 10 mm thick (int.)
- Solid wooden wall NOVATOP 2x 42 mm thick
- Gypsum fibre board Fermacell 10 mm thick (int.)

2.2.3. NOVATOP load-bearing walls 134 mm thick consist of the following component parts:

- Fermacell 2x 12.5 mm thick
- NOVATOP panel 84 mm (2x 42 mm)
- Fermacell 2x 12.5 mm thick

2.2.4. NOVATOP load-bearing walls 144 mm thick consist of the following component parts:

- Fermacell 2x 15 mm thick
- NOVATOP panel 84 mm (2x 42 mm)
- Fermacell 2x 15 mm thick

2.3. National evaluation – reaction to fire according to ČS EN 13501-1

- **Wood and fibreboards** have a reaction to fire "**D-s2, d0**" in accordance with ČSN 73 0810 Table A.2.
- **FEMACELL gypsum fibre boards** – have a reaction to fire "**A2-s1, d0**" according to ETA-03/0050.

2.3.2. Determination of the type of structures

Determination of the type of structures is carried out based on reaction to fire of the individual materials used in the assessed structures. The reaction to fire for individual materials is given in Chapter 2.3.

Wall structures with double-sided cladding with boards are structures of mixed type, DP2, for a time before the non-flammable boards fall off (wood burns off, i.e. before the temperature on the wood rises to 300°C), they are also structures of the DP3 type.

Under the 10 mm thick Fermacell cladding the temperature of 300°C is reached on the wood in the 18th minute; under the 2x12.5 mm thick Fermacell cladding the temperature is reached in the 54th minute; under the 2x15 mm thick Fermacell cladding the temperature has not been reached within the 60 minutes.

The walls are clad on both sides with Fermacell boards of 10 mm or 2x12.5 or 2x15 mm in thickness and therefore the walls are of the DP 2 - 15 type (45 or 60 minutes).

3. Structure evaluation

The conclusive values of fire resistance of the walls were determined theoretically and experimentally by assessing the limit states in accordance with the requirements of ČSN 73 0810 and based on the results of tests carried out according to ČSN EN 1365 – 1.

Detailed evaluation and application of the results is carried out in the opinion U - 007/21/AO 204. The assessment has been carried out in respect of the walls described in Chapter 2.2.

4. Classification and application area

4.1. Classification reference

This classification has been carried out in accordance with Art. 7.5.2 of ČSN EN 13501-2

4.2. Classification

On the basis of the performed tests, their evaluation in accordance with the requirements of ČSN and extension to other compositions, the values of fire resistance of load-bearing inner walls were demonstrably determined according to the subsequent combination of parameters of the properties and classes.

The demonstrated fire resistance of the assessed load-bearing interior, including load-bearing wooden elements, loaded with 20 kN.m^{-1} is as follows.

4.2.1. Load-bearing inner panel walls in composition 3.1.:

- NOVATOP "B" 84 mm thick are REI 45 DP3 structures;
- NOVATOP "C" 124 mm thick are REI 60 DP3 structures;

4.2.2. Load-bearing inner panel walls in composition 3.2.:

- NOVATOP 104 mm thick are REI 15 DP2; REI 60 DP3 structures

4.2.3. Load-bearing inner panel walls in composition 3.3.:

- NOVATOP 134 mm thick are REI 45 DP2; REI 60 DP3 structures

4.2.4. Load-bearing inner panel walls in composition 3.4.:

- NOVATOP 144 mm thick are REI 60 DP2 structures;

The results of fire resistance also apply to the assessed load-bearing walls with the following changes compared to the tested ones:

- Height reduction
- Increase in wall thickness; its reduction is not permitted.
- Increase in thickness of the component materials (solid wood); its reduction is not permitted.
- Reduction of distances between the mounting centres of the plates.
- Educued load 20 kN.m^{-1} or lower.
- The reaction to fire of the materials used is equal or lesser.
- The rigidity of the structure is not reduced.
- Increase in height to 4 m (if the max. deflection has not been exceeded).

5. Provisions on usability

5.1. Limitations

The validity of the fire classification certificate is until **2024-04-30** unless the product or the standard provisions are changed.

5.2. Notification

This fire classification certificate is valid only as a whole, each page being accompanied by an identification number of the classification protocol, a page number out of the total number of pages and the contractor's stamp. This classification protocol shall not replace the type approval nor the product certification.

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In Prague on 30.4.2021