Translation of the official fire resistance classification report. Original report

PAVUS, a.s.

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REPORT ON FIRE RESISTANCE CLASSIFICATION

Classification subject:	Load-bearing ceilings and roofs with fire-stopping function according to ČSN EN 13501-2:2024, Art. 7.3.3
Report number:	**PK2-03-25-001-C-0**
Product name:	Ceiling structure made of Novatop Element wooden panels having a thickness of 349 mm
Ordering party:	AGROP NOVA, a.s. Ptenský Dvorek 99 798 43 Ptení Czech Republic
Executed by:	PAVUS, a.s. Certification Body for Product Certification No. 3041 – accreditation issued by the Czech Institute for Accreditation, o.p.s., – Certificate of Accreditation no. 16/2024 Prosecká 412/74 190 00 PRAGUE 9 Czech Republic Order €. 2210240351
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1 INTRODUCTION

1.1 This classification report determines the classification of the element in question – the ceiling structure made of Novatop Element wooden panels with a thickness of 349 mm – in accordance with the procedures specified in ČSN EN 13501-2:2024.
1.2 This classification report consists of 5 pages and may only be used or reproduced in its entirety.

2 DETAILED INFORMATION ABOUT THE CLASSIFIED PRODUCT

2.1 General

The element – the ceiling structure made of Novatop Element wooden panels with a thickness of 349 mm – is defined as a horizontal load-bearing structure with a fire-stopping function with regard to the characteristics of the fire resistance properties specified in Art. 5 of ČSN EN 13501-2.

2.2 Description

- Ceiling span of 7.1 m, thickness of the panel bearing structure of 349 mm;
- ceiling structure consisting of two panels measuring 7,300 x 1,938 x 349 mm and 7,300 x 1,062 x 349 mm (length x width x thickness);
- the bearing structure of the panel consists of longitudinal ribs 80x280 mm made of glued lamella wood (coniferous timber), 5 ribs in a panel having a width of 1,938 mm and 3 ribs in a panel having a width of 1,062 mm (manufacturer: AGROP NOVA a.s.), ribs interconnected by transverse stiffeners with a spacing of max. 1,758 mm, stiffeners of the dimensions of 45 x 280 mm made of glued lamella wood, panel fronts closed with stiffeners;
- flat SWP panels (manufacturer: AGROP NOVA a.s.) – three-layer panels made of cross-laminated glued lamella wood (490 kg/m, coniferous timber). Each layer of the panel consists of lamellas of solid of solid wood, upper and lower layers of wood oriented in the direction of the span, the inner layer of the lamellas perpendicular to panel span. Panels formatted according to the dimensions of the panels without a construction joint when installed on the panel;
- in the production of ribs and SWP, melamine adhesive GripPro Light A015 with hardener GripPro Light HO15 (AKZO NOBEL, Sweden) was used;
- the rib grid is structurally assembled during production through the prepared cut-outs, all panel parts are connected using polyurethane adhesive Jowapur®, type 681.20 (manufacturer: Jowat SE).
- Panel composition (description from above):
  - upper decking made of one SWP panel having a thickness of 27 mm. The board on one panel extends 30 mm over the side of the panel and, on the other panel, it has been shifted 30 mm from the edge of the panel to create a longitudinal panel joint by overlapping;
  - air cavity having a thickness of 200 mm in the upper part of the space between the load-bearing ribs;
  - filling having a thickness of 80 mm with fine limestone aggregate in the lower part of the space between the load-bearing ribs;
  - lower decking made of one SWP panel having a 42 mm. The board on one panel extended 35 mm over the side of the panel and, on the other panel, it has been shifted 30 mm from the edge of the panel to create a longitudinal panel joint by overlapping (the opposite side with respect to the upper SWP board);

- all wooden parts of the panels without surface treatment.
- Longitudinal joint between panels the (2x overlapping):
  - overlapping formed by shifting the upper and lower SWP boards against the edges during panel production, putting the panels together at the bottom of the SWP board (with a larger overlap); a strip of Isover Unirol Profi soft mineral wool inserted at the contact surfaces to the full height of the joint and in a length of approx. 300 mm (Saint Gobain CP CZ Isover); the joint after compression of the mineral wool to a thickness of approx. 5 mm in the rest of the span without additional filling;
  - the panels are screwed together from above into the ribs through the overlapping using C 8 x 100 mm screws with TX40 disc head (supplier: VALENTA ZT s.r.o.); screw spacing: approx. 500 mm; bottom visual surface without screws.

- In one panel field, an installation channel consisting of gypsum fibreboard Fermacell blanks having a thickness of 12.5 mm (1150 kg/m*, James Hardie Europe GmbH) was made along the entire length of the sample. The 60x40 mm battens were screwed to the sides of the ribs above the aggregate filling; 2 layers of Fermacell boards were placed on the battens; the sides of the ribs were lined with one layer of Fermacell boards; and the upper decking was made with 1 layer of Fermacell boards fitted with the upper edge of the ribs. Anchoring to the ribs with Fermacell screws of Ø 3.9 x 30 mm at a span of approx. 300 mm; joints of the board planks without sealant. Channel clearance of 357 x 100 mm; Fermacell revision decking of 250 x 250 mm placed on the dovetail formed in the upper SWP board and screwed with Fermacell screws of Ø 3,9 x 30 mm.

Element manufacturer: AGROP NOVA a.s.

A detailed description of the product, including the drawings, is provided in Test Report No. Pr-25-2.019 dated February 24, 2025.

2.3 Static scheme and load

- static diagram — simple span of 7.10 m, support width of 100 mm;
- uniform continuous load q = 3.06 kg/m^2
- maximum internal forces from loads (values for a standard metre of structure width, customer data):
  - bending moment: M = 19.28 KNm
  - shear force in the support: Q = 10.86 KN.

3 TEST REPORTS / EXTENDED APPLICATION REPORTS AND TEST RESULTS USED FOR CLASSIFICATION

3.1 Test Reports / Extended Application Reports

Laboratory name, address, accreditation number	Supplier name	Report number Date of issue	Test standard and date / extended application standard and date
Pavus , a.s. Veselí nad Lužnicí AZL č. 1026 Česká republika	AGROP NOVA, a.s. Ptenský dvorek 99 798 43 Ptení Česká republika	Pr-25-2.019 2025-02-24	ČSN EN 1365-2:2017

Test procedure **Report number** **Date of issue**	**Parameter**	**Result, details and load**
	Thermal stress Stress direction Number of exposed sides Inferred load Support conditions	Standard temperature/time curve from below 1 See chapter 2.3 See chapter 2.3
	Load capacity (R) – 1.5* limit deflection	 64 minutes, not reached
	Exceeding both values: – limit deflection – Deflection speed	 64 minutes, not reached 64 minutes, not reached
	Integrity (E) – cotton pad – joint gauges – permanent flame burning	 64 minutes, no violations 64 minutes, no violations 64 minutes, no violations
	Insulation (I) – projected temperature increase – maximum temperature rise	 64 minutes, not reached 64 minutes, not reached

4 CLASSIFICATION AND THE AREA OF APPLICATION

4.1 Classification reference
This classification was performed in accordance with Article 7.3.3 of ČSN EN 13501-2:2024.

4.2 Classification
The element – the ceiling structure made of Novatop Element wooden panels with a thickness of 349 mm – is classified according to the following combinations of property parameters and classes.

Fire resistance classification: **REI 60 / RE 60**

4.3 Area of application

This classification applies to the following end-use applications in accordance with ČSN EN 1365-2 and the test results can be directly applied to similarly untested ceiling or roof structures provided the following applies:
in relation to a building structural element:
- the maximum bending moments and shear forces, calculated on the same basis as the test load, shall not be greater than those of the test (see Section 2.3 of this document).

in relation to the cavity:
- no combustible or insulating material has been added to the cavity unless the same amount of material (fire load) has been incorporated in the test sample.

in relation to the slope of roof structures:
- the results for elements tested at a slope < 10° can be applied for a slope of 0° + 15°.

5 RESTRICTIONS

This classification is valid as long as the conditions under which it was exposed have not changed (i.e. as long as the materials used, the composition or design of the product or the technical regulations relating to the product have not changed)..

The client may request the issuing organization to review the impact of the changes on the validity of the classification.

This Classification Report does not replace type approval or product certification.