

„MEŽA UN KOKSNES PRODUKTU PĒTNIECĪBAS UN ATTĪSTĪBAS INSTITŪTS” SIA
VAT No. LV 43603022749
Dobeles iela 41, Jelgava, LV-3001, Latvia
Phone +371 63010605 * E-mail meka@e-koks.lv * Web www.e-koks.lv



Extended application classification of reaction to fire in accordance with EN 13501-1:2018

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Sponsor: Teknos A/S.

Address: Industrivej 19, 6580 Vamdrup, Denmark.

Reg. No. DK85551612.

Manufacturer and owner of classification report: Teknos A/S.

Prepared by: SIA “Meža un koksnes produktu pētniecības un attīstības institūts” (*Forest and Wood Products Research and Development Institute Ltd*).

Test performed at: SIA “Meža un koksnes produktu pētniecības un attīstības institūts” (*Forest and Wood Products Research and Development Institute Ltd*), Dobeles street 41, Jelgava, LV-3001, Latvia and “Pienavas katlu māja”, Pienava, Džūkstes pagasts, Tukuma novads, LV-3147, Latvia (“*Pienava heat plant*”, Pienava, Džūkste parish, Tukums region, LV-3147, Latvia).

Product name: Wood cladding and glulam panels of spruce solid wood.

Laboratory involved in testing is accredited by the Latvian National Accreditation Bureau (LATAK) according to the standard LVS EN ISO/IEC 17025 under the terms of Latvian legislation with reg. No. T-316. Laboratory is a notified body with reg. No. NB 2040 under construction product regulation No. 305/2011.

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1. Introduction

This classification report defines the reaction to fire classification assigned to wood cladding and glulam panels of spruce solid wood in accordance with the procedures given in EN 13501-1:2018.

2. Details of classified product

2.1. General

Wood cladding and glulam panels of spruce solid wood is defined as solid wood cladding. Product is described by product standard EN 14915:2013.

2.2. Product description

- Product name: Wood cladding and glulam panels of spruce solid wood.
- Manufacturer of coatings: Teknos A/S.
- Materials used for manufacturing:
 - spruce solid wood with dimensions 19x148 mm with or without preservative treatment with TECNOL 1410-01 colourless (100-120 g/m²);
 - glulam panels of solid spruce wood with dimension 25x90 mm and shiplap profile;
 - Superwood treated spruce wood with dimensions 19x145 mm, profile type rectangular; core impregnated (superwood) using SC200 ~120 g/m³ dissolved in CO₂ under 74-150 bar pressure. Organic fungicide SC200 consist of propiconazole, tebuconazole and IPBC.*
- Product coating variations tested:
 - primed with TEKNOSAFE 2407-00 Base 1 with consumption 350 g/m² (white and purple violet color);
 - primer TEKNOSAFE 2407-00 with consumption 350 g/m² and top coating Nordica Eko 3330-03 with consumption 150 g/m² (white color);
 - primer TEKNOSAFE 2407-00 with consumption 350 g/m² and top coating TEKNOCLAD 3371-72 with consumption 100 g/m² (colour RAL 4007 Purple Violet);
 - primer TEKNOSAFE 2407-00 with consumption 350 g/m² (colour white and RAL 4007 purple violet) and top coating TEKNOSAFE FLAME PROTECT 2408 with consumption 150 g/m² (colour white and RAL 4007 purple violet);
- Coating application method: spraying.
- Density: 500 kg/m³ ± 100 kg/m³.
- Nominal thickness tested: 19 mm, 25 mm, 38 mm and 57 mm.

*Note: * Based on agreement between Teknos AS and Superwood AS dated 11.10.2022 about joint ownership of Superwood AS classification report No K27/2021 to be used to extend scope of validity of Teknos AS classification report No K26/2022 were proofed that superwood fungicide treatment did not influence reaction to fire performance compared to normal untreated spruce wood, reference test reports 5487-1/2021 and 5487-2/2021 issued at 17.05.2021.*

3. Test reports and test results in support of classification

3.1. Specific conditions

Not applicable

3.2. Test reports

| Name of laboratory | Name of sponsor | Test reports | Test method |
|--|-----------------|--|---------------------|
| SIA „ Meža un koksnes produktu pētniecības un attīstības institūts” Testing Laboratory | Teknos A/S | 5611-1/2021 | EN 13823:2020 |
| BM TRADA | Teknos A/S | BMT/RFP/F14056/02 (issued September 2014) | EN 13823:2010 |
| BM TRADA | Teknos A/S | BMT/RFP/F14056/01 (issued September 2014) | EN ISO 11925-2:2010 |
| BM TRADA | Teknos A/S | BMT/RFP/F14055/01 (issued August 2014) | EN ISO 11925-2:2010 |
| BM TRADA | Teknos A/S | BMT/RFP/F14055/02 (issued August 2014) | EN 13823:2010 |
| BM TRADA | Teknos A/S | BMT/RFP/F14055/03 (issued August 2014) | EN 13823:2010 |
| BM TRADA | Teknos A/S | BMT/RFP/F14022/01 (issued June 2014) | EN 13823:2010 |
| BM TRADA | Teknos A/S | BMT/RFP/F14022/01 (issued June 2014) | EN 13823:2010 |
| BM TRADA | Teknos AB | BMT/RFP/F15069/02 (issued August 2015) | EN 13823:2010 |
| BM TRADA | Teknos AB | BMT/RFP/F15069/01 (issued August 2015) | EN ISO 11925-2:2010 |
| SIA „ Meža un koksnes produktu pētniecības un attīstības institūts” Testing Laboratory | Superwood A/S | 5487-1/2021 | EN 13823:2020 |
| SIA „ Meža un koksnes produktu pētniecības un attīstības institūts” Testing Laboratory | Superwood A/S | 5487-2/2021 | EN ISO 11925-2:2020 |
| SIA „ Meža un koksnes produktu pētniecības un attīstības institūts” Testing Laboratory | Teknos A/S | 6253-1-2 | EN 13823:2020 |
| SIA „ Meža un koksnes produktu pētniecības un attīstības institūts” Testing Laboratory | Teknos A/S | 6540-1-1 | EN 13823:2020 |
| SIA „ Meža un koksnes produktu pētniecības un attīstības institūts” Testing Laboratory | Teknos A/S | 6540-1-2 | EN 13823:2020 |
| SIA „ Meža un koksnes produktu pētniecības un attīstības institūts” Testing Laboratory | Teknos A/S | 6540-1-3 | EN 13823:2020 |

3.3. Test results

| Test method | Parameter | Number of tests | Results | |
|--|---------------------------------------|---|---------------------------|-----------------------|
| | | | Continuous parameter mean | Compliance parameters |
| EN 13823:2020 | FIGRA _{0,2MJ} (W/s) | 5 ^a | 96.7 ^a | (-) |
| | | 3 ^b | 119.0 ^b | |
| | | 3 ^e | 88.1 ^e | |
| | | 4 ^f | 95.2 ^f | |
| | | 3 ^g | 100.3 ^g | |
| | | 3 ^h | 103.7 ^h | |
| | FIGRA _{0,4MJ} (W/s) | 96.6 ^a | (-) | |
| | | 84.6 ^b | | |
| | | 78.6 ^e | | |
| | | 56.5 ^f | | |
| THR _{600s} (MJ) | 87.3 ^g | (-) | | |
| | 56.8 ^h | | | |
| | 5.7 ^a | | | |
| | 5.5 ^b | | | |
| | 5.5 ^e | | | |
| LFS | 5.2 ^f | Compliant | | |
| | 5.94 ^g | | | |
| SMOGR(m ² /s ²) | 5.10 ^h | (-) | | |
| | 6.3 ^a | | | |
| | 1.4 ^b | | | |
| | 0.9 ^e | | | |
| | 1.1 ^f | | | |
| | 2.7 ^g | | | |
| | 0 ^h | | | |
| | TSP _{600s} (m ²) | | 48.2 ^a | (-) |
| | | | 43.8 ^b | |
| | | | 39.3 ^e | |
| 35.2 ^f | | | | |
| 36.2 ^g | | | | |
| 40.8 ^h | | | | |
| Flaming droplets <10s | | (-) | Compliant | |
| Flaming droplets >10s | | (-) | Compliant | |
| EN ISO 11925-2:2020 | Flame spread (Fs) | 6 ^c 18 ^d 6 ⁱ | (-) | Compliant |
| | Ignition of filter paper | | (-) | Compliant |
| | Flaming droplets/particles | | (-) | Compliant |
| Exposure time 30 s. Test duration 60 s. | | | | |
| (-) not applicable ^a Results from test report 5611-1/2021. ^b Results from test report No. BMT/RFP/F14056/02. ^c Results from test report No. BMT/RFP/F14056/01. ^d Results from test report No. BMT/RFP/F14055/01. ^e Results from test report No. BMT/RFP/F14055/02. ^f Results from test report No. BMT/RFP/F14055/03. ^g Results from test report No. BMT/RFP/F14022/01. ^h Results from test report No. BMT/RFP/F15069/02. ⁱ Results from test report No. BMT/RFP/F15069/01. | | | | |

Test results for specimens with additional coatings

| Specimen No. | 6253-1-2 | 6540-1-1 | 6540-1-2 | 6540-1-3 | | | | | |
|---|----------|-----------------------|-----------------------|-----------------------|--|--|--|--|--|
| FIGRA _{0,2MJ} , W/s | 107.8 | 41.2 | 57.0 | 100.0 | | | | | |
| FIGRA _{0,4MJ} , W/s | 74.6 | 41.2 | 46.6 | 92.9 | | | | | |
| THR _{600s} , MJ | 4.6 | 3.7 | 4.0 | 5.2 | | | | | |
| SMOGR _A , m ² /s ² | 1.3 | Threshold not reached | Threshold not reached | Threshold not reached | | | | | |
| TSP _{600s} , m ² | 42.4 | 24.5 | 27.0 | 29.4 | | | | | |

Specimens identification

| Identification number | Wood species and area of use | Thickness, mm | Primer name and consumption | Top coating name and consumption |
|-----------------------|------------------------------------|---------------|--|---|
| 6253-1-2 | Primed and painted spruce cladding | 19 | TEKNOSAFE 2407-00, 350 g/m ² , Purple Violet RAL 4007 | TEKNOCLAD 3371-72, 100 g/m ² , Purple Violet RAL 4007 |
| 6540-1-1 | Primed and painted spruce cladding | 19 | TEKNOSAFE 2407-00, 350 g/m ² , White | TEKNOSAFE FLAME PROTECT 2408, 150 g/m ² , White |
| 6540-1-2 | Primed and painted spruce cladding | 19 | TEKNOSAFE 2407-00, 350 g/m ² , White | TEKNOSAFE FLAME PROTECT 2408, 150 g/m ² , Purple Violet RAL 4007 |
| 6540-1-3 | Primed and painted spruce cladding | 19 | TEKNOSAFE 2407-00, 350 g/m ² , Purple Violet RAL 4007 | TEKNOSAFE FLAME PROTECT 2408, 150 g/m ² , Purple Violet RAL 4007 |

4. Classification and field of application
4.1. Reference of classification

This classification has been carried out in accordance with clause 11 of EN 13501-1:2018.

4.2. Classification

Wood cladding and glulam panels of spruce solid wood in relation to its reaction to fire behaviour is classified:

B

The additional classification in relation to smoke production is:

s1

The additional classification in relation to flaming droplets/particles is:

d0

The format of the reaction to fire classification for construction product excluding floorings and linings is:

| Fire behaviour | | Smoke production | | | Flaming droplets | |
|----------------|---|------------------|---|---|------------------|---|
| B | - | s | 1 | , | d | 0 |

Reaction to fire classification: B-s1, d0

4.3. Field of application

4.3.1 This classification is valid for the following product end use applications:

Product primary is intended to use as solid wood cladding.

4.3.2. This classification is also valid for following product parameters:

- valid for thickness range from 19 mm to 57 mm;
- valid only for spruce wood with or without preservative treatments with TEKNOL 1410-01 or Superwood;
- valid only for glulam panels of spruce solid wood;
- valid for deviations of density within natural limits of spruce wood;
- valid with coating systems as tested applied by spraying, brushing or roller only;
- mounted with ventilated or non-ventilated air gap to substrate of any A1 or A2-s1,d0 and with the air gap constructed by wooden battens of class D-s2,d0 or better or any A1 or A2-s1,d0 product with a minimum density of 525 kg/m³;
- valid for product mounting with air gap between product and substrate. Valid also for product mounting on substrates without air gap;
- valid for product application with standard vertical and horizontal joints;
- valid for vertical and horizontal arrangements;
- valid for all colour tones for primer TEKNOSAFE 2407-00**;
- valid for white colour for system primer TEKNOSAFE 2407-00 and top coating NORDICA EKO 3330-03;
- valid for all colour tones for system primer TEKNOSAFE 2407-00 and top coating TEKNOSAFE FLAME PROTECT 2408**;
- valid for all colour tones for system primer TEKNOSAFE 2407-00 and top coating TEKNOCLAD 3370/3371**.

*** According to customer's provided information from extended application report No. PHB10114A about different colour tone influence on reaction to fire performance of paints issued by Danish Institute of Fire and Security Technology (DBI) at Jernholmen 12, DK-2650 Hvidovre, Denmark on 04.12.2020.*

5. Limitations.

5.1. No restrictions on the duration of validity of this classification report as long as the product specifications remain unchanged.

5.2. This document does not represent type approval or certification of the product.

Prepared by



E. Bukšāns

(signature and name)

Reviewed by



K. Būmanis

(signature and name)

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