

„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



Classification of reaction to fire in accordance with EN 13501-1:2018

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Sponsor: Thermory AS.

Address: Lõõtsa 1A, 11415 Tallinn, Estonia.

Reg. No. 10278819.

Manufacturer and owners of classification report: Thermory AS.

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*), “Pienavas katlu māja”, Pienava, Džūkstes pagasts, Tukuma novads, LV-3147, Latvia (*“Pienava heat plant”, Pienava, Džūkste parish, Tukums region, LV-3147, Latvia*).

Product name: Thermally modified wood cladding.

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.

Classification report refers only to these test objects. This classification report may not be reproduced otherwise than in full text, excepted with the prior written approval of the Forest and Wood Products Research and Development Institute

1. Introduction

This classification report defines the reaction to fire classification assigned to thermally modified wood cladding in accordance with the procedures given in EN 13501-1:2018.

2. Details of classified product

2.1. General

Thermally modified wood cladding is defined as solid wood cladding. Product is described by product standard EN 14915:2013.

2.2. Product description

- Product name: Thermally modified wood cladding.
- Manufacturer of thermally modified wood and cladding: Thermory AS.
- Product variations tested:
 - Wood species and profiles:
 - thermally modified Scots pine (*Pinus sylvestris*) wood boards with 18x140 mm dimensions, profile type – rectangular;
 - thermally modified Radiata pine (*Pinus radiata*) wood boards with 18x140 mm dimensions, profile type – rectangular;
 - thermally modified Scots pine (*Pinus sylvestris*) wood boards 19x140 mm with density 400-450 kg/m³, profile type – shiplap.
 - thermally modified Norway spruce (*Picea abies*) wood boards with density 420-450 kg/m³ with topcoat Teknoshield 4005 – 9099 with consumption 45 g/m², profile type – tongue-grove;
 - thermally modified Norway spruce (*Picea abies*) wood boards with 18 x 186 mm dimensions, profile type – rectangular;
 - thermally modified Ash (*Fraxinus spp.*) wood boards with 18 x 145 mm dimensions, profile type – rectangular;
 - thermally modified Red oak (*Quercus rubra*) wood boards with 18 x 112 mm dimensions, profile type – rectangular.
 - Coating variations:
 - thermally modified Scots pine (*Pinus sylvestris*) wood boards with density 400-450 kg/m³ with topcoat Teknoshield 4005 – 9099 with consumption 45 g/m², profile type – tongue-grove.
 - thermally modified Scots pine (*Pinus sylvestris*) wood boards 19x140 or 19 x 142 mm with density 400-450 kg/m³ with two layers topcoat Tikkurila Pinja Woodstain with total consumption 160 g/m². Colour tones light grey and TVT5061. Profile type – shiplap;
 - thermally modified Scots pine (*Pinus sylvestris*) wood boards 19x140 mm with density 400-450 kg/m³ with two layers topcoat Tikkurila Ultra Pro HD10 with total consumption 180 g/m². Colour tone – black. Profile type – shiplap.
- Nominal thickness tested: 18...19 mm.

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	Thermory AS	6594-1/2022	EN 13823:2020
SIA „Meža un koksnes produktu pētniecības un attīstības institūts” Testing Laboratory	Thermory AS	6594-2/2022	EN ISO 11925-2:2020
SIA „Meža un koksnes produktu pētniecības un attīstības institūts” Testing Laboratory	Thermory AS	7484-1/2022	EN 13823:2020
SIA „Meža un koksnes produktu pētniecības un attīstības institūts” Testing Laboratory	Thermory AS	7484-2/2022	EN ISO 11925-2:2020
SIA „Meža un koksnes produktu pētniecības un attīstības institūts” Testing Laboratory	Thermory AS	7648-1/2023	EN 13823:2020+A1:2022
SIA „Meža un koksnes produktu pētniecības un attīstības institūts” Testing Laboratory	Thermory AS	7648-2/2023	EN ISO 11925-2:2020
SIA „Meža un koksnes produktu pētniecības un attīstības institūts” Testing Laboratory	Thermory AS	8000-1-1	EN 13823:2020+A1:2022
SIA „Meža un koksnes produktu pētniecības un attīstības institūts” Testing Laboratory	Thermory AS	8162-1-2	EN 13823:2020+A1:2022
SIA „Meža un koksnes produktu pētniecības un attīstības institūts” Testing Laboratory	Thermory AS	8383-1-1	EN 13823:2020+A1:2022

3.3. Test results

Test method	Parameter	Number of tests	Results	
			Continuous parameter mean	Compliance parameters
EN 13823:2020+A1:2022	$FIGRA_{0,2MJ}(W/s)$	6 ^a 5 ^b 6 ^c	639.0 ^a 689.4 ^b 476.5 ^c	(-)
	$FIGRA_{0,4MJ}(W/s)$		639.0 ^a 689.4 ^b 469.4 ^c	(-)
	$THR_{600s}(MJ)$		28.9 ^a 22.0 ^b 23.2 ^c	(-)
	LFS		yes	Compliant
	$SMOGRA(m^2/s^2)$		16.2 ^a 5.0 ^b 2.0 ^c	(-)
	$TSP_{600s}(m^2)$		64.9 ^a 57.6 ^b 27.8 ^c	(-)
	Flaming droplets <10s Flaming droplets >10s		(-) (-)	Compliant Compliant
	Flame spread (Fs)	12 ^a	(-)	Compliant
	Ignition of filter paper	12 ^b	(-)	Compliant
	Flaming droplets/particles	24 ^c	(-)	Compliant
(-) not applicable ^a Results from report No 7648-1/2023 and 7648-2/2023 ^b Results from report No 7484-1/2022 and 7484-2/2022 ^c Results from report No 6594-1/2022 and 6594-2/2022				

Test results for specimens with additional coatings

Specimen No.	8000-1-1	8162-1-2	8383-1-1
$FIGRA_{0,2MJ}, W/s$	672.6	642.3	600.4
$FIGRA_{0,4MJ}, W/s$	672.6	642.3	600.4
THR_{600s}, MJ	19.9	20.3	15.0
$SMOGRA, m^2/s^2$	5.6	5.1	12.4
TSP_{600s}, m^2	56.8	56.3	37.5

Specimens identification

Identification number	Wood species and board type	Coating name, colour and consumption
8000-1-1	19x140 mm thermowood pine, profile type - shiplap	Tikkurila Pinja Woodstain light gray, 2 x 80 g/m ²
8162-1-2	19x142 mm thermowood pine, profile type - shiplap	Tikkurila Pinja Woodstain TVT5061, 2 x 80 g/m ²
8383-1-1	19x140 mm thermowood pine, profile type - shiplap	Tikkurila Ultra Pro HD10, 2 x 90 g/m ²

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

Thermally modified wood cladding in relation to its reaction to fire behaviour is classified:

D

The additional classification in relation to smoke production is:

s2

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	
D	-	s	2	,	d	0

Reaction to fire classification: D-s2, 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 product thickness 18 mm and larger thicknesses;
- valid only for product compositions as tested;
- valid for thermally modified Scots pine, Norway spruce, Radiata pine, Ash, Red oak wood;
- valid for straight edge boards and profiled claddings with minimal profile thickness 9 mm and larger;
- valid without coatings and with coatings as tested;
- mounted with ventilated or non-ventilated air gap to substrate of any A1 or A2-s1,d0 with a minimum density of 525 kg/m³, and with the air gap constructed by wooden battens of class D-s2,d0 or better or any A1 or A2-s1,d0 product.
- 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.

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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