



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 owner of the classification report: Thermory AS.

Classification done by: Meža un koksnes produktu pētniecības un attīstības institūts SIA (*Forest and Wood Products Research and Development Institute*), Testing laboratory "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.

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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 according to 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, 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, red, white. Profile type – shiplap;
 - thermally modified Scots pine (*Pinus sylvestris*) wood boards 19x140 mm with density 400-450 kg/m³, with topcoat Teknoshield 4005-00 THERSIL with consumption 45 g/m², profile type – shiplap;
 - thermally modified Scots pine (*Pinus sylvestris*) wood boards 19x140 mm with density 400-450 kg/m³ with two layers topcoat Sikkens Rubbol Façade Special (manufacturer: Akzo Nobel) with consumption 2 x 70 g/m². Colour tone – black, red, white. Profile type – shiplap;
 - thermally modified Scots pine (*Pinus sylvestris*) wood boards 19x140 mm with density 400-450 kg/m³ with two layers topcoat Koralan UL1100 Nussbaum (manufacturer: Kurt Obermeier GmbH & Co. KG) with consumption 50 g/m² and 40 g/m². Profile type – shiplap;
 - thermally modified Scots pine (*Pinus sylvestris*) wood boards 19x140 mm with density 400-450 kg/m³, with topcoat Remmers Induline SW-900 with consumption 120 g/m². Colour tone – transparent. Profile type – shiplap;

- thermally modified Scots pine (*Pinus sylvestris*) wood boards 19x140 mm with density 400-450 kg/m³, with topcoat Teknos Teknoshield 4005-00 with consumption 70 g/m². Colour tone – RAL4007 (purple). Profile type – shiplap;
- thermally modified Scots pine (*Pinus sylvestris*) wood boards 19x140 mm with density 400-450 kg/m³, with topcoat Koralan UL110 Eiche Hell with consumption 60 g/m² – first layer and 40 g/m² – second layer. Profile type – shiplap;
- thermally modified Scots pine (*Pinus sylvestris*) wood boards 19x140 mm with density 400-450 kg/m³, with topcoat Tikkurila Pinja Color Plus D with consumption 2 x 90 g/m². Colour tone – black. Profile type – shiplap.
- Nominal thickness tested: 19 mm (+/- 1 mm).

3. Test reports and test results in support of classification

3.1. Specific conditions (*applicable only if performed using facilities outside the testing laboratory*)

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	E1334/2025 (EXAP report)	EN 13823:2020+A1:2022

3.3. Test results

Test method	Parameter	Number of tests	Results	
			Continuous parameter mean	Compliance parameters
EN 13823:2020 ^{b; c} EN 13823:2020+A1:2022 ^a	<i>FIGRA</i> _{0,2MJ} (W/s)	6 ^a 5 ^b 6 ^c	639.0 ^a 689.4 ^b 476.5 ^c	(-)
	<i>FIGRA</i> _{0,4MJ} (W/s)		639.0 ^a 689.4 ^b 469.4 ^c	(-)
	<i>THR</i> _{600s} (MJ)		28.9 ^a 22.0 ^b 23.2 ^c	(-)
	<i>LFS</i>		yes	Compliant
	<i>SMOGRA</i> (m ² /s ²)		16.2 ^a 5.0 ^b 2.0 ^c	(-)
	<i>TSP</i> _{600s} (m ²)		64.9 ^a 57.6 ^b 27.8 ^c	(-)
	Flaming droplets <10s		(-)	Compliant
	Flaming droplets >10s		(-)	Compliant
	Flame spread (Fs)	12 ^a	(-)	Compliant
	Ignition of filter paper	12 ^b 24 ^c	(-)	Compliant
EN ISO 11925-2:2020 Exposure time 30 s. Test duration 60 s.	Flaming droplets/particles		(-)	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 according to REACTION TO FIRE EXTENDED APPLICATION REPORT No. E1334/2025 for surface coating or facing, colour, colour range and substrate or underlaying:

Specimen No.	8000-1-1	8162-1-2	8383-1-1	9220-1-1	9268-1-2	9496-1-1	9496-1-2	9608-1-1
FIGRA _{0,2MJ} , W/s	672.6	642.3	600.4	609.8	624.3	673.0	726.9	700.1
FIGRA _{0,4MJ} , W/s	672.6	642.3	600.4	609.8	624.3	673.0	726.9	700.1
THR _{600s} , MJ	19.9	20.3	15.0	20.0	20.6	17.9	19.8	20.3
SMOGRA, m ² /s ²	5.6	5.1	12.4	3.6	3.0	1.7	3.2	4.0
TSP _{600s} , m ²	56.8	56.3	37.5	35.6	32.2	26.5	49.5	36.9
LFS< edge of specimen	yes	yes	yes	yes	yes	yes	yes	yes
Flaming droplets <10s	no	no	no	no	no	no	no	no
Flaming droplets >10s	no	no	no	no	no	no	no	no
Specimen No.	9646-1-1	9646-1-2	10126-1-1	10285-1-1	10285-1-2	10351-1-1	1334-1-2	
FIGRA _{0,2MJ} , W/s	663.4	522.3	584.2	722.0	722.7	541.1	671.0	
FIGRA _{0,4MJ} , W/s	663.4	522.3	584.2	722.0	722.7	541.1	671.0	
THR _{600s} , MJ	17.2	15.1	21.7	24.7	19.7	15.0	58.8	
SMOGRA, m ² /s ²	3.6	3.4	6.1	2.9	2.1	20.7	5.0	
TSP _{600s} , m ²	31.9	28.3	43.0	36.5	26.6	45.2	48.4	
LFS< edge of specimen	yes	yes	yes	yes	yes	yes	yes	
Flaming droplets <10s	no	no	no	no	no	no	no	
Flaming droplets >10s	no	no	no	no	no	no	no	

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 except floorings 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. Classification valid for following product variations:

Product primary is intended to be used as solid wood cladding.

4.3.2. Classification valid for following product end use applications:

- 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 at least 9 mm and larger thicknesses and with essentially flat closed cladding system;
- valid without coatings and with coatings as tested at colour tone as tested;
- mounted with a ventilated or non-ventilated air gap to the substrate of any A1 or A2-s1,d0 with a minimum density of 525 kg/m³ with thickness at least 12 mm, 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 also, mounted with a ventilated or non-ventilated air gap to the insulation substrates of any A1 and A2-s1,d0 substrates with a density of at least 30 kg/m³ and thickness at least 20 mm, and with the air gap constructed by an untreated wooden frame of class D-s2,d0 or better or any A1 or A2-s1,d0 product;
- valid for product mounting with an air gap between product and substrate. Valid also for product mounting on substrates without an air gap;
- valid for product application with standard vertical and horizontal joints;
- valid for vertical and horizontal arrangements;
- valid for all colours of Sikkens Rubbol Façade Special (manufacturer: Akzo Nobel);
- valid for all colours of Tikkurila Ultra Pro HD10 (manufacturer: Tikkurila);
- valid for all colours of Teknoshield 4005-00 (manufacturer: Teknos).

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.

5.3. The classification assigned to the product in this report is appropriate to a declaration of conformity by the manufacturer within the context of system 3 attestation of conformity and CE marking under the Construction Products Regulation.

The manufacturer has made a declaration, which is held on file. This confirms that the product's design requires no specific processes, procedures or stages (e.g. no addition of flame-retardants, limitation of organic content, or addition of fillers) that are aimed at enhancing the fire performance in order to obtain the classification achieved. As a consequence the manufacturer has concluded that system 3 attestation is appropriate.

The test laboratory has, therefore, played no part in sampling the product for the test, although it holds appropriate references, supplied by the manufacturer, to provide for traceability of the samples tested.

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