

CLASSIFICATION OF REACTION TO FIRE

FIRES-CR-045-23-NURE

Cement-bonded particleboard CETRIS® in types without surface treatment (BASIC, INCOL, AKUSTIC, PROFIL) and with surface treatment (PLUS, FINISH, LASUR, DEKOR)

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CLASSIFICATION OF REACTION TO FIRE with extended field of application

FIRES-CR-045-23-NURE

Name of the product: Cement-bonded particleboard CETRIS® in types without surface treatment (BASIC, INCOL, AKUSTIC, PROFIL) and with surface treatment (PLUS, FINISH, LASUR, DEKOR)

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1. INTRODUCTION

This classification report defines the reaction to fire classification assigned to element Cement-bonded particleboard CETRIS® in types without surface treatment (BASIC, INCOL, AKUSTIC, PROFIL) and with surface treatment (PLUS, FINISH, LASUR, DEKOR) in accordance with the classes given in EN 13501-1: 2018.

Extended application of test results has been elaborated in accordance with CEN/TS 15117: 2005 and is stated in extended application report [1] listed in cl. 3.1 of this document.

2. DETAILS OF CLASSIFIED PRODUCT

2.1 GENERAL

The element, Cement-bonded particleboard CETRIS® in types without surface treatment (BASIC, INCOL, AKUSTIC, PROFIL) and with surface treatment (PLUS, FINISH, LASUR, DEKOR), is used in vertical and horizontal building constructions, non-loadbearing walls and partitions, cladding of walls, shaft walls, exterior loadbearing and non-loadbearing walls, floor systems, hollow core floors, cladding of timber and steel constructions in order to increase fire resistance, as membrane of suspended ceiling according to EN 13964, and Cement-bonded particleboard CETRIS® AKUSTIC is used as acoustic cladding of walls and ceilings, which is fixed to the steel supporting construction with a layer of mineral wool.

2.2 PRODUCT DESCRIPTION

Cement-bonded particleboard CETRIS® in types without surface treatment (BASIC, INCOL, AKUSTIC, PROFIL) and with surface treatment (PLUS, FINISH, LASUR, DEKOR) consist of timber mass, cement, water, hydrating ingredients and surface treatment. Cement-bonded particleboards in types CETRIS® AKUSTIC have drilled openings with diameter 12 mm. The openings are evenly spaced across the entire surface of the boards at a mutual distance of 32 mm.

The content of individual components in case of CETRIS® boards (in weight %)

- timber mass 19 %;
- cement 69 %;
- water 10 %;
- hydrating ingredients 2 %.

The content of individual components in case of CETRIS® INCOL boards (in weight %)

- timber mass 17 %;
- cement 66 %;
- liquid pigment 5 %;
- water 10 %;
- hydrating ingredients 2 %.

Boards thickness: from 8 mm to 40 mm.

Bulk density: CETRIS®, CETRIS® INCOL (1450 ± 50) kg.m⁻³.

All types of cement-bonded particleboards CETRIS® / CETRIS® AKUSTIC with thickness of 12 mm could be substitute by boards CETRIS ECO® INCOL.

Cement-bonded particleboards CETRIS® are offered also in version without surface treatment (BASIC, INCOL, AKUSTIC, PROFIL) and they produced with surface treatment as follows:

BASIC (significant component)	smooth surface, without surface treatment;
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PROFIL (significant component)	relief surface, without surface treatment;
AKUSTIC (significant component)	smooth surface, evenly drilled openings;
INCOL (significant component)	smooth surface, mixture coloured by black pigment;
PLUS (non-significant component)	smooth surface, with surface treatment: <ul style="list-style-type: none"> base coat BTAitop 1000A/CRT, area density (140 – 220) g.m⁻² (in wet state), applied on obverse / seamy side of board and on edges of board, dry matter content min. 52 % by weight (manufacturer: BTA Industry, a.s., Czech Republic);
PROFIL PLUS	relief surface, with surface treatment: <ul style="list-style-type: none"> base coat BTAitop 1000A/CRT, area density (140 – 220) g.m⁻² (in wet state), applied on obverse / seamy side of board and on edges of board, dry matter content min. 52 % by weight;
FINISH (non-significant component)	smooth surface, with surface treatment: <ul style="list-style-type: none"> base coat BTAitop 1000A/CRT, area density (200 – 250) g.m⁻² (in wet state), applied on obverse / seamy side of board and on edges of board, dry matter content min. 52 % by weight; base coat BTAi EP 3000 AB, area density (110 – 130) g.m⁻² (in wet state), applied on obverse / seamy side of board and on edges of board, dry matter content min. 56 % by weight; top coat BTAitop 1000A/CTS, area density (160 – 200) g.m⁻² (in wet state), applied on obverse / seamy side of board and on edges of board, dry matter content min. 52 % by weight;
FINISH PROFIL	relief obverse side, with surface treatment: <ul style="list-style-type: none"> base coat BTAitop 1000A/CRT, area density (200 – 250) g.m⁻² (in wet state), applied on obverse / seamy side of board and on edges of board, dry matter content min. 52 % by weight; base coat BTAi EP 3000 AB, area density (110 – 130) g.m⁻² (in wet state), applied on obverse / seamy side of board and on edges of board, dry matter content min. 56 % by weight; top coat BTAitop 1000A/CTS, area density (160 – 200) g.m⁻² (in wet state), applied on obverse / seamy side of board and on edges of board, dry matter content min. 52 % by weight;
AKUSTIC FINISH	smooth surface, evenly drilled openings, with surface treatment: <ul style="list-style-type: none"> base coat BTAitop 1000A/CRT, area density (200 – 250) g.m⁻² (in wet state), applied on obverse / seamy side of board and on edges of board, dry matter content min. 52 % by weight; base coat BTAi EP 3000 AB, area density (110 – 130) g.m⁻² (in wet state), applied on obverse / seamy side of board and on edges of board, dry matter content min. 56 % by weight; top coat BTAitop 1000A/CTS, area density (160 – 200) g.m⁻² (in wet state), applied on obverse / seamy side of board and on edges of board, dry matter content min. 52 % by weight;



LASUR (non-significant component)	<p>smooth surface, with surface treatment:</p> <ul style="list-style-type: none"> base coat BTAitop 1000A/CRT, area density (200 – 250) g.m⁻² (in wet state), applied on obverse / seamy side of board and on edges of board, dry matter content min. 52 % by weight; base coat BTAi EP 3000 AB, area density (110 – 130) g.m⁻² (in wet state), applied on obverse / seamy side of board and on edges of board, dry matter content min. 56 % by weight; scumble varnish BTAitop 1000A/CTS - lazura, area density (160 – 200) g.m⁻² (in wet state), applied on obverse / seamy side of board and on edges of board, dry matter content min. 38 % by weight;
PROFIL LASUR	<p>relief obverse side, with surface treatment:</p> <ul style="list-style-type: none"> base coat BTAitop 1000A/CRT, area density (200 – 250) g.m⁻² (in wet state), applied on obverse / seamy side of board and on edges of board, dry matter content min. 52 % by weight; base coat BTAi EP 3000 AB, area density (110 – 130) g.m⁻² (in wet state), applied on obverse / seamy side of board and on edges of board, dry matter content min. 56 % by weight; scumble varnish BTAitop 1000A/CTS - lazura, area density (160 – 200) g.m⁻² (in wet state), applied on obverse / seamy side of board and on edges of board, dry matter content min. 38 % by weight;
DEKOR (significant component)	<ul style="list-style-type: none"> water-dilutable base coat HC-4, area density 150 g.m⁻² (in wet state), applied on obverse / seamy side of board and on edges of board, dry matter content min. 60 % by weight (manufacturer: Stomix, a.s., Czech Republic); water-dilutable acrylic mosaic decorative plaster Alfadekor G, area density 4500 g.m⁻² (in wet state), applied on obverse side of board, grain size (1,2 – 1,8) mm, dry matter content min. 70 % by weight (manufacturer: Stomix, a.s., Czech Republic);

3. EXTENDED APPLICATION REPORTS AND TEST RESULTS IN SUPPORT OF CLASSIFICATION

3.1 EXTENDED APPLICATION REPORTS

No.	Name of laboratory	Name of sponsor	Report No.	Date of issue
[1]	FIRES, s.r.o., Batizovce, SR	CIDEM Hranice, a.s., Hranice, CZ	FIRES-ER-024-23-AUNE	24. 02. 2023

4. CLASSIFICATION AND FIELD OF APPLICATION

4.1 REFERENCE OF CLASSIFICATION

This classification has been carried out in accordance with classes defined in clause 11.6 and 11.7 of EN 13501-1: 2018.



4.2 CLASSIFICATION

4.2.1

The element, Cement-bonded particleboard CETRIS® in types without surface treatment (BASIC, INCOL, AKUSTIC, PROFIL), in relation to its reaction to fire behaviour is classified:

A2

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 products excluding floorings and linear pipe thermal insulation products is:

Fire behaviour		Smoke production			Flaming droplets	
A2	-	s	1	,	d	0

Reaction to fire classification: A2 - s1, d0

4.2.2

The element, Cement-bonded particleboard CETRIS® in types with surface treatment (PLUS, FINISH, LASUR, DECOR), 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 products excluding floorings and linear pipe thermal insulation products is:

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

Reaction to fire classification: B - s1, d0



4.3 FIELD OF APPLICATION

This extended application report is valid for product described in clause 2.2 and following end use:

- i) in horizontal (excluding floorings) and vertical position;
- ii) without surface treatment;
- iii) with surface treatment according to clause 2.2 (all colour shades);
- iv) without cavity;
- v) with cavity;
- vi) with timber supporting construction;
- vii) with steel supporting construction;
- viii) gaps in joints of boards without mastic;
- ix) gaps in joints of boards with mastic.

This extended application report is valid for following product parameters:

Thickness	<ul style="list-style-type: none"> - thickness of cement-bonded particleboards CETRIS® in types (BASIC, INCOL, AKUSTIC) may vary in range from 8 mm to 40 mm, board CETRIS® PROFIL may vary in range from 10 mm to 40 mm; - thickness of mineral wool may be changed; - change in surface treatment thickness is allowed within the scope of manufacturing tolerances;
Bulk density [kg.m ⁻³]	<ul style="list-style-type: none"> - change in the bulk density of cement-bonded particleboards CETRIS® in types (BASIC, INCOL, AKUSTIC, PROFIL), is allowed within the scope of manufacturing tolerances; - increase in the bulk density of mineral wool is allowed;
Area density [kg.m ⁻²]	<ul style="list-style-type: none"> - decrease in area density of surface treatments is allowed only, increase against the values listed in clause 2.2 is not allowed, maximal values of area density of surface treatments are listed in the table of clause 2.2;
Product composition	<ul style="list-style-type: none"> - content of individual components CTD according to clause 2.2.2 shall not be changed; - only surface treatment according to clause 2.2.2 may be used for CTD; - only mineral wool with minimal reaction to fire class A2-s1, d0 is allowed to be used in construction of the product; - ceiling according to EN 13964 is produced with/without cavity above membrane, only mineral wool with reaction to fire class A1 may be used for insulation; - supporting construction may be made of timber, timber-based materials and steel, or other materials with reaction to fire class A1.



5. LIMITATIONS

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

The classification is valid provided that the product, field of application, standards and regulations are not changed.

Approved by:

Ing. Štefan Rástocký
Chief Operating Officer

Prepared by:

Ing. Samuel Skokan
Technician of the Testing Laboratory

