



SHI-PRODUKTPASS

Produkte finden - Gebäude zertifizieren

SHI-Produktpass-Nr.:

2843-10-1000

Zementgebundene Spanplatte Cetris

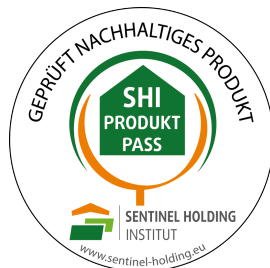
Warengruppe: Zementgebundene Spanplatte



Bausal GmbH - Cetris Deutschland
Rollenhagen 7a
17237 Blankensee



Produktqualitäten:



Köttner

Helmut Köttner
Wissenschaftlicher Leiter
Freiburg, den 06.10.2025



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Wir sind stolz darauf, dass die SHI-Datenbank, die erste und einzige Datenbank für Bauprodukte ist, die ihre umfassenden Prozesse sowie die Aktualität regelmäßig von dem unabhängigen Prüfunternehmen SGS-TÜV Saar überprüfen lässt.





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SHI-Produktbewertung 2024

Seit 2008 etabliert die Sentinel Holding Institut GmbH (SHI) einen einzigartigen Standard für schadstoffgeprüfte Produkte. Experten führen unabhängige Produktprüfungen nach klaren und transparenten Kriterien durch. Zusätzlich überprüft das unabhängige Prüfunternehmen SGS regelmäßig die Prozesse und Aktualität.

Kriterium	Produktkategorie	Schadstoffgrenzwert	Bewertung
SHI-Produktbewertung	Holzwerkstoffe	TVOC $\leq 300 \mu\text{g}/\text{m}^3$ Formaldehyd $\leq 36 \mu\text{g}/\text{m}^3$	Schadstoffgeprüft
Gültig bis: 03.08.2027			



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QNG - Qualitätssiegel Nachhaltiges Gebäude

Das Qualitätssiegel Nachhaltiges Gebäude, entwickelt durch das Bundesministerium für Wohnen, Stadtentwicklung und Bauwesen (BMWSB), legt Anforderungen an die ökologische, soziokulturelle und ökonomische Qualität von Gebäuden fest. Das Sentinel Holding Institut prüft Bauprodukte gemäß den QNG-Anforderungen für eine Zertifizierung und vergibt das QNG-ready Siegel. Das Einhalten des QNG-Standards ist Voraussetzung für den KfW-Förderkredit. Für bestimmte Produktgruppen hat das QNG derzeit keine spezifischen Anforderungen definiert. Diese Produkte sind als nicht bewertungsrelevant eingestuft, können jedoch in QNG-Projekten genutzt werden.

Kriterium	Pos. / Bauproduktgruppe	Betrachtete Stoffe	QNG Freigabe
3.1.3 Schadstoffvermeidung in Baumaterialien	9.1 Holzwerkstoffe (FPY, OSB und HPL) für den Holzbau und Innenausbau	Formaldehyd / VOC / Emissionen / gefährliche Stoffe / SVHC: Borverbindungen	QNG-ready
Nachweis: Prüfbericht des Instituts SGS INSTITUT FRESENIUS GmbH vom 28.07.2021. Konformitätserklärung vom 04.08.2023 bestätigt die materielle Übereinstimmung mit dem geprüften Produkt. Herstellererklärung vom 03.11.2021			

Kriterium	Bewertung
ANF2-WG1 Nachhaltige Materialgewinnung	Kann Gesamtbewertung positiv beeinflussen
Nachweis: PEFC-Zertifikat vom 18.03.2022	



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DGNB Neubau 2023

Das DGNB-System (Deutsche Gesellschaft für Nachhaltiges Bauen) bewertet die Nachhaltigkeit von Gebäuden verschiedener Art. Das System ist sowohl anwendbar für private und gewerbliche Großprojekte als auch für kleinere Wohngebäude. Die Version 2023 setzt hohe Standards für ökologische, ökonomische, soziokulturelle und funktionale Aspekte während des gesamten Lebenszyklus eines Gebäudes.

Kriterium	Pos. / Relevante Bauteile / Bau-Materialien / Flächen	Betrachtete Stoffe / Aspekte	Qualitätsstufe
ENV 1.2 Risiken für die lokale Umwelt, 03.05.2024 (3. Auflage)	47 Beschichtete und unbeschichtete Holzwerkstoffe	Formaldehyd Emissionen	Qualitätsstufe: 4

Nachweis: Prüfbericht des Instituts SGS INSTITUT FRESENIUS GmbH vom 28.07.2021.
Konformitätserklärung vom 04.08.2023 bestätigt die materielle Übereinstimmung mit dem
geprüften Produkt.

Kriterium	Qualitätsstufe
ENV 1.3 Verantwortungsbewusste Ressourcengewinnung	Kann Gesamtbewertung positiv beeinflussen

Nachweis: PEFC-Zertifikat vom 18.03.2022

Kriterium	Bewertung
SOC 1.2 Innenraumluftqualität (*)	Kann Gesamtbewertung positiv beeinflussen

Nachweis: SHI-Schadstoffgeprüft

Kriterium	Bewertung
ENV 1.1 Klimaschutz und Energie (*)	Kann Gesamtbewertung positiv beeinflussen

Kriterium	Bewertung
ECO 1.1 Gebäudebezogene Kosten im Lebenszyklus (*)	Kann Gesamtbewertung positiv beeinflussen



Kriterium	Bewertung
ECO 2.6 Klimaresilienz (*)	Kann Gesamtbewertung positiv beeinflussen
Nachweis: Bezüglich des Radonschutzes: Beton ist kompakt, etwas sicher, genau nicht gemessen	

Kriterium	Bewertung
SOC 1.1 Thermischer Komfort (*)	Kann Gesamtbewertung positiv beeinflussen

Kriterium	Bewertung
SOC 1.3 Schallschutz und akustischer Komfort (*)	Kann Gesamtbewertung positiv beeinflussen

Kriterium	Bewertung
SOC 2.1 Barrierefreiheit (*)	Kann Gesamtbewertung positiv beeinflussen

Kriterium	Bewertung
TEC 1.3 Qualität der Gebäudehülle (*)	Kann Gesamtbewertung positiv beeinflussen

Kriterium	Pos. / Relevante Bauteile / Bau-Materialien / Flächen	Betrachtete Stoffe / Aspekte	Qualitätsstufe
ENV 1.2 Risiken für die lokale Umwelt, 29.05.2025 (4. Auflage)	47 Beschichtete und unbeschichtete Holzwerkstoffe	VVOC, VOC, SVOC Emissionen	Qualitätsstufe: 4
Nachweis: Prüfbericht des Instituts SGS INSTITUT FRESENIUS GmbH vom 28.07.2021. Konformitätserklärung vom 04.08.2023 bestätigt die materielle Übereinstimmung mit dem geprüften Produkt.			



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DGNB Neubau 2018

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Kriterium	Pos. / Relevante Bauteile / Bau-Materialien / Flächen	Betrachtete Stoffe / Aspekte	Qualitätsstufe
ENV 1.2 Risiken für die lokale Umwelt	48 Holzbau und Fertigholz- häuser: Holzwerkstoffe im konstruktiven Holzbau (z. B. aussteifend): Spanplatten, Furnierplatten, Faserplatten	Formaldehyd	Qualitätsstufe: 4

Nachweis: Prüfbericht des Instituts SGS INSTITUT FRESENIUS GmbH vom 28.07.2021.
Konformitätserklärung vom 04.08.2023 bestätigt die materielle Übereinstimmung mit dem
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BAUSAL
Ihr Partner für Lösungen mit innovativen Baustoffen

BNB-BN Neubau V2015

Das Bewertungssystem Nachhaltiges Bauen ist ein Instrument zur Bewertung von Büro- und Verwaltungsgebäuden, Unterrichtsgebäuden, Laborgebäuden sowie Außenanlagen in Deutschland. Das BNB wurde vom damaligen Bundesministerium für Umwelt, Naturschutz, Bau und Reaktorsicherheit (BMUB) entwickelt und unterliegt heute dem Bundesministerium für Wohnen, Stadtentwicklung und Bauwesen.

Kriterium	Bewertung
1.1.7 Nachhaltige Materialgewinnung	Kann Gesamtbewertung positiv beeinflussen
Nachweis: PEFC-Zertifikat vom 18.03.2022	

Kriterium	Pos. / Bauprodukttyp	Betrachtete Schadstoffgruppe	Qualitätsniveau
1.1.6 Risiken für die lokale Umwelt	41 Holzwerkstoffplatten nach EN 13986 wie Span-, Tischler-, Faser-, mitteldichte Faser-, Sperrholz-, Massivholz- und OSB-Platten sowie Furnierschichtholz (beschichtet oder unbeschichtet)	VOC / Formaldehyd / gefährliche Stoffe	Qualitätsniveau 4
Nachweis: Prüfbericht des Instituts SGS INSTITUT FRESENIUS GmbH vom 28.07.2021. Konformitätserklärung vom 04.08.2023 bestätigt die materielle Übereinstimmung mit dem geprüften Produkt. Zusätzlich gilt Position 46a): Herstellererklärung vom 03.11.2021			



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EU-Taxonomie

Die EU-Taxonomie klassifiziert wirtschaftliche Aktivitäten und Produkte nach ihren Umweltauswirkungen. Auf der Produktebene gibt es gemäß der EU-Verordnung klare Anforderungen zu Formaldehyd und flüchtigen organischen Verbindungen (VOC). Die Sentinel Holding Institut GmbH kennzeichnet qualifizierte Produkte, die diesen Standard erfüllen.

Kriterium	Produkttyp	Betrachtete Stoffe	Bewertung
DNSH - Vermeidung und Verminderung der Umweltverschmutzung		Stoffe nach Anlage C	EU-Taxonomie konform
Nachweis: SHI-Schadstoffgeprüft			



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BREEAM DE Neubau 2018

BREEAM (Building Research Establishment Environmental Assessment Methodology) ist ein britisches Gebäudebewertungssystem, welches die Nachhaltigkeit von Neubauten, Sanierungsprojekten und Umbauten einstuft. Das Bewertungssystem wurde vom Building Research Establishment (BRE) entwickelt und zielt darauf ab, ökologische, ökonomische und soziale Auswirkungen von Gebäuden zu bewerten und zu verbessern.

Kriterium	Produktkategorie	Betrachtete Stoffe	Qualitätsstufe
Hea 02 Qualität der Innenraumlufte	Holzwerkstoffe	Emissionen: Formaldehyd, TVOC, TSVOC, Krebserregende Stoffe	herausragende Qualität

Nachweis: Prüfbericht des Instituts SGS INSTITUT FRESENIUS GmbH vom 28.07.2021.
Konformitätserklärung vom 04.08.2023 bestätigt die materielle Übereinstimmung mit dem geprüften Produkt.



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Produktsiegel

In der Baubranche spielt die Auswahl qualitativ hochwertiger Materialien eine zentrale Rolle für die Gesundheit in Gebäuden und deren Nachhaltigkeit. Produktlabels und Zertifikate bieten Orientierung, um diesen Anforderungen gerecht zu werden. Allerdings besitzt jedes Zertifikat und Label eigene Prüfkriterien, die genau betrachtet werden sollten, um sicherzustellen, dass sie den spezifischen Bedürfnissen eines Bauvorhabens entsprechen.



Auch hier werden Hölzer und Holzprodukte aus nachhaltiger Forstwirtschaft ausgezeichnet. Laut Umweltverbänden sind die Anforderungen nicht ganz so hoch wie beim FSC. Auch hier spielen gesundheitliche Kriterien keine Rolle.



Dieses Produkt ist schadstoffgeprüft und wird vom Sentinel Holding Institut empfohlen. Gesundes Bauen, Modernisieren und Betreiben von Immobilien erfolgt dank des Sentinel Holding Konzepts nach transparenten und nachvollziehbaren Kriterien.



Produkte mit dem QNG-ready Siegel des Sentinel Holding Instituts eignen sich für Projekte, für welche das Qualitätssiegel Nachhaltiges Gebäude (QNG) angestrebt wird. QNG-ready Produkte erfüllen die Anforderungen des QNG Anhangdokument 3.1.3 "Schadstoffvermeidung in Baumaterialien". Das KfW-Kreditprogramm Klimafreundlicher Neubau mit QNG kann eine höhere Fördersumme ermöglichen.



LCA Studio s.r.o. ist ein unabhängiges tschechisches Prüfinstitut mit Spezialisierung auf Lebenszyklusbewertungen (LCA) und Umweltproduktdeklarationen (EPD) im Rahmen des International EPD Systems. Das Unternehmen verifiziert Umweltdaten gemäß internationalen Normen wie ISO 14025 und unterstützt Hersteller bei der Erstellung transparenter EPDs.



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Rechtliche Hinweise

(*) Die Kriterien dieses Steckbriefs beziehen sich auf das gesamte Bauobjekt. Die Bewertung erfolgt auf der Ebene des Gebäudes. Im Rahmen einer sachgemäßen Planung und fachgerechten Installation können einzelne Produkte einen positiven Beitrag zum Gesamtergebnis der Bewertung leisten. Das Sentinel Holding Institut stützt sich einzig auf die Angaben des Herstellers.

Alle Kriterien finden Sie unter:

<https://www.sentinel-holding.eu/de/Themenwelten/Pr%C3%BCfverfahren/kriterien%20f%C3%BCr%20Produkte>

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Herausgeber

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CLASSIFICATION OF REACTION TO FIRE FIRES-CR-100-17-AURE

Cement-bonded particleboard CETRIS® / CETRIS® AKUSTIC

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CLASSIFICATION OF REACTION TO FIRE with extended field of application

FIRES-CR-100-17-AURE

Name of the product: Cement-bonded particleboard CETRIS[®] / CETRIS[®] AKUSTIC

Sponsor: CIDEM Hranice, a.s.
Skalní č. 1088
Hranice I – Město
753 01 Hranice
Czech Republic

Prepared by: FIRES, s.r.o.
Notified Body No. 1396
Osloboditeľov 282
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Slovak Republic

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1. INTRODUCTION

This classification report defines the reaction to fire classification assigned to element Cement-bonded particleboard CETRIS® / CETRIS® AKUSTIC in accordance with the classes given in EN 13501-1: 2007 + A1: 2009.

2. DETAILS OF CLASSIFIED PRODUCT

2.1 GENERAL

The element, cement-bonded particleboard CETRIS®, 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® consists of timber mass, cement, water, hydrating ingredients and surface treatment. There are openings with diameter of 12 mm drilled in the board in case of type CETRIS® AKUSTIC. These openings are evenly distributed on the whole surface in distance 32 mm.

Content of individual components (volume %):

- timber mass 60 %;
- cement 22 %;
- water 15 %;
- hydrating ingredients 3 %.

Board thickness: 8 mm - 40 mm.

Bulk density: 1350 kg/m³.

Cement-bonded particleboard CETRIS® are produced with following surface treatments:

Table No. 1

BASIC	smooth surface, without surface treatment
PROFIL	relief surface, without surface treatment;
AKUSTIC	smooth surface, evenly drilled openings;
PLUS	smooth surface, with surface treatment: • base coat BTAitop 1000A/CRT, area density (140 – 220) g/m² (in wet state), applied on obverse/seamy side of board and on edges of board, dry matter content min. 52% by weight;
PROFIL PLUS	relief surface, with surface treatment: • base coat BTAitop 1000A/CRT, area density (140 – 220) g/m² (in wet state), applied on obverse/seamy side of board and on edges of board, dry matter content min. 52% by weight;
FINISH	smooth surface, with surface treatment: • base coat BTAitop 1000A/CRT, area density (200 – 250) g/m² (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/m² (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/m² (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: - base coat BTAitop 1000A/CRT, area density (200 – 250) g/m² (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/m² (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/m² (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: - base coat BTAitop 1000A/CRT, area density (200 – 250) g/m² (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/m² (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/m² (in wet state), applied on obverse/seamy side of board and on edges of board, dry matter content min. 52% by weight;
LASUR	smooth surface, with surface treatment: - base coat BTAitop 1000A/CRT, area density (200 – 250) g/m² (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/m² (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/m² (in wet state), applied on obverse/seamy side of board and on edges of board, dry matter content min. 38 % by weight;
PROFIL LASUR	relief obverse side, with surface treatment: - base coat BTAitop 1000A/CRT, area density (200 – 250) g/m² (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/m² (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/m² (in wet state), applied on obverse/seamy side of board and on edges of board, dry matter content min. 38% by weight;
LASIN	smooth grinded surface, with surface treatment: - base coat BTAitop 1000A/CRT, area density (200 – 250) g/m² (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/m² (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/m² (in wet state), applied on obverse/seamy side of board and on edges of board, dry matter content min. 38 % by weight;



AKUSTIC LASIN	smooth grinded surface, evenly drilled openings, with surface treatment: - base coat BTAitop 1000A/CRT, area density (200 – 250) g/m² (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/m² (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-lazura, area density (160 – 200) g/m² (in wet state), applied on obverse/seamy side of board and on edges of board, dry matter content min. 38 % by weight;
DOLOMIT NEW	smooth surface, with surface treatment: surface treatment on obverse side of board: - coat Waterstop, water resistant coat for surface treatment of seamy side, area density 0,100 kg/m²; - epoxide plaster EPOXY-β-2 water resistant glue used as base for marble brash on obverse side, area density 0,200 kg/m² - marble brash, area density 2,5 – 3 kg/m², grain 3 mm thick;

Note: Manufacturer of coats and varnish BTAitop 1000A/CRT, BTAitop 1000A/CTS, BTAitop 1000A/CTS-lazura and BTAi EP 3000 is BTA Industry a.s., K velké Ohradě 776, 155 00 Praha 5, Czech Republic. Manufacturer of individual components of surface treatment DOLOMIT NEW is UAB "Vilsoplat", Titnago g. 19, 023 00 Vilnius, Lithuania.

Cement-bonded particleboards are fixed to the supporting construction (timber or steel) by steel screws placed in spacing max. 300 mm.

Boards CETRIS® AKUSTIC are fixed to supporting construction made of steel galvanized profiles (60 x 27 x 0,6) mm, by means of steel screws (Ø 4,2 x 25) mm placed in spacing max. 300 mm.

Layer of insulating material (building construction without cavity), e.g. mineral wool Orsil HARDSIL, Orsil N (manufacturer SAINT-GOBAIN ORSIL s.r.o. Častolovice, Czech Republic) or other type of mineral wool with bulk density min. 60 kg/m³ and reaction to fire class A1 may be applied to CETRIS® boards or building constructions are produced with cavity (without insulation).

Layer of insulating material, e.g. mineral wool with bulk density min. 22 kg/m³ and reaction to fire class min. A2-s1, d0 is applied to CETRIS® AKUSTIC boards from the inside of the construction.

Joints of cement-bonded particleboards CETRIS® are without mastic or with mastic DEXAFLAMM-R (manufacturer: TORA, spol. s r.o., Czech Republic).

Suspended ceilings

Supporting construction of suspended ceiling according to EN 13964 is made of profiles CD (60 x 27 x 0,6) mm, loadbearing and assembling. Maximal spacing between loadbearing CD profiles is 960 mm. Maximal spacing between assembling CD profiles is 420 mm. Assembling profiles are fixed to loadbearing profiles by cross coupling. Loadbearing profiles are fixed to roof by means of straight hinges. Type of CD profile, cross coupling and straight hinge is of KNAUF, type D 112 (supplier KNAUF Praha, s.r.o., Czech Republic) ceiling construction. Material of CD profiles, suspension and fixation elements – steel of class min. DX 51D+Z according to EN 10142, with a continuous metal layer, applied in hot state Z100 according to EN 10327.

There are 5 mm wide dilatation gaps between boards, which are sealed by mastic DEXAFLAMM-R (manufacturer TORA Spytihněv spol. s r.o., Czech Republic). Boards CETRIS® are fixed to loadbearing construction by means of screws (Φ4,2 x 35) mm or (Φ3,9 x 30) mm placed in spacing max. 300 mm. Screw heads are sealed by mastic DEXAFLAMM-R (manufacturer TORA Spytihněv spol. s r.o., Czech Republic).



40 mm thick insulating layer made of mineral wool (according to table No. 2) is inserted between CD profiles of supporting construction. Second layer of mineral wool (according to table No. 2), 40 mm thick is placed on first mineral wool layer. Upper layer of mineral wool is rotated 90°, so the joints are overlapped.

Table No. 2

Product variant A)	Orsil HARDSIL with bulk density 60 kg.m ⁻³ (manufacturer SAINT-GOBAIN ORSIL s.r.o. Častolovice, Czech Republic)
Product variant B)	Orsil N with bulk density 100 kg.m ⁻³ (manufacturer SAINT-GOBAIN ORSIL s.r.o. Častolovice, 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, Slovak Republic	CIDEM Hranice, a.s., Czech Republic	FIRES-ER-016-17- NURE	12. 04. 2017

4. CLASSIFICATION AND FIELD OF APPLICATION

4.1 REFERENCE OF CLASSIFICATION

This classification has been carried out in accordance with classes defined in clause 11.7 of EN 13501-1: 2007 + A1: 2009.

4.2 CLASSIFICATION

The element, Cement-bonded particleboard CETRIS® / CETRIS® AKUSTIC, 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



4.3 FIELD OF APPLICATION

This extended application report is valid for product described in clause 2.1 and following end use:

- i) in horizontal (excluding floorings) and vertical position;
- ii) without surface treatment;
- iii) with surface treatment according to clause 2.2.2 (all color shades);
- iv) without cavity;
- v) with cavity (apart from boards CETRIS® AKUSTIC);
- vi) with timber supporting construction (apart from boards CETRIS® AKUSTIC);
- vii) with steel supporting construction;
- viii) gaps in joints of boards without mastic;
- ix) gaps in joints of boards with mastic (apart from boards CETRIS® AKUSTIC).

This extended application report is valid for following product parameters:

Thickness	- thickness of cement-bonded particleboards CETRIS® and CETRIS® AKUSTIC may vary in range from 8 mm to 40 mm; - thickness of mineral wool be changed; - change in surface treatment thickness is allowed within the scope of manufacturing tolerances;
Bulk density [kg/m ³]	- change in the bulk density of cement-bonded particleboards CETRIS® and CETRIS® AKUSTIC is allowed within the scope of manufacturing tolerances; - increase in the bulk density of mineral wool is allowed;
Area density [kg/m ²]	- change in the bulk density is allowed within the scope of manufacturing tolerances;
Product composition	- 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 (apart from boards CETRIS® AKUSTIC), timber-based materials (apart from boards CETRIS® AKUSTIC) 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:

Signed:


 Ing. Štefan Rástocký
 leader of the testing laboratory




 Ing. Samuel Skokan
 technician of the testing laboratory

Technical Data Sheet (TDS)

CETRIS® BASIC



CETRIS® BASIC is a cement-bonded particleboard with smooth naturally cement-grey surface. It is produced by pressing a mixture of wood chips (63% by volume), Portland cement (25% vol.), water (10% vol), and hydration additives (2% by volume); it is available in standard thicknesses of 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, and 32 mm. Upon prior agreement it is also possible to deliver the following thicknesses: 34, 36, 38 and 40 mm. The basic size of the board is 3,350 x 1,250 mm. We deliver the boards cut to the sizes specified by the customer, with rounded edge or chamfered edge to 45° angle, milled starting from the 12-mm thickness with half-groove, starting from the 16-mm thickness with tongue and groove. The boards may also be delivered with pre-drilled holes. The cement-bonded particleboard are used mainly as a structural material in cases where moisture resistance, strength, fire resistance, ecological and hygienic harmlessness are required at the same time. CETRIS® Boards do not contain either asbestos or formaldehyde; they are resistant to insects and mold exposure. They are fireproof and can provide sound insulation. The boards can be worked with conventional woodworking tools.

Technical specifications:

basic size:	3,350 x 1,250 mm
board thicknesses:	8-10-12-14-16-18-20-22-24-26-28-30-32, upon prior agreement 34-36-38-40 mm
Bulk density:	1,150-1,450 kg/m ³
service: to customer's requirements.	cutting, drilling holes, shrinkage, edge cutting and milling
Surface:	smooth
surface finish:	without surface finish

Table of basic physical and mechanical properties of CETRIS® cement-bonded particleboards:	Limit values according to standard	Mean values - real
Bulk density acc. to EN 323:	min. 1,000 kg/m ³	1,350 kg/m ³
Bending tensile strength acc. to EN 310	min. 9.0 N/mm ²	min. 11.5 N/mm ²
Modulus of elasticity acc. to EN 310	min. 4,500 N/mm ²	min. 6,800 N/mm ²
Tensile strength perpendicular to the board plane acc. to EN 319	min. 0.5 N/mm ²	min. 0.63 N/mm ²
Internal bond after cycling in a humid environment according to EN 321	min. 0.3 N/mm ²	min. 0.41 N/mm ²
Reaction to fire acc. to EN 13 501-1		A2-s1, d0
Index of flame propagation along the surface acc. to the Czech standard ČSN 73 0863		i = 0 mm/min
Thickness swelling when stored in water for 24 hours	max. 1.5 %	max. 0.28 %
Thickness swelling after cycling in a humid environment according to EN 321	max. 1.5 %	max. 0.31 %
Linear expansion with changes in humidity from 35% to 85% at 23 °C according to EN 13 009		max. 0.122 %
Water absorption by the board when stored in water for 24 hours		max. 16 %
Thermal expansion coefficient acc. to EN 13 471		10 × 10-6 K-1
Coefficient of thermal conductivity acc. EN 12 664; thickness 8 to 40 mm		0.200 - 0.287W/mK
Airborne sound insulation according to Czech standard CSN 73 0513, th.8 to 40mm		30 dB – 35 dB
Diffusion resistance factor according to DIN EN ISO 12572, th.8 to 40		52.8 – 69.2
Resistance to frost at 100 cycles according to EN 1328	R _L > 0.7	R _L = 0.97
pH of the board material		12,5
Mass activity Ra 226	150 Bq/kg	22 Bq/kg
Mass activity index	I = 0.5	I = 0.21
Surface resistance to water and chemical de-icing agents acc. to Czech standard CSN 73 1326	Waste after 100 cycles max. 800 g/m ² (Method A)	Waste after 100 cycles max. 20.4 g/m ² (Method A)
	Waste after 75 cycles max. 800 g/m ² (Method C)	Waste after 100 cycles max. 47.8 g/m ² (Method C)
Resistance to arc discharge of high voltage according to EN 61 621		th. 10mm, min.143 sec
Shearing friction coefficient acc. to the Czech standard ČSN 74 4507		Static μs = 0.73
		dynamic μd = 0.76
Mass balanced humidity at 20° and a relative humidity of 50% according to EN 634-1	9 ±3 %	9.50%

Dimensional tolerance:

Feature	Board thickness	Requirement
Thickness of uncut board	8 mm	±0.7 mm
	10 mm	±0.7 mm
	12 mm	±1.0 mm
	14 mm	±1.0 mm
	16 mm	±1.2 mm
	18 mm	±1.2 mm
	20-40 mm	±1.5 mm
Length and width of the basic format		±5.0 mm
Precision of cutting the length and width		±3.0 mm
Edge straightness tolerance		1.5 mm/m
Rectangularity tolerance		2.0 mm/m

Appearance:

Parameter	I.Quality class	II.Quality class
Deviation from the right angle	max. 2 mm/1 m of length	max. 4 mm/1 m of length
Permitted edge damage	max. to the depth of 3 mm	max. to the depth of 30 mm
Protrusions on the surface	max.1 mm, size 10 mm	max. 1 mm
Depressions	max.1 mm, size 10 mm	max. 2 mm

CETRIS® INCOL

CETRIS® INCOL is a cement-bonded particleboard with a smooth surface, tinted with black pigment in the mass. It is produced by pressing a mixture of wood chips (63% by volume), Portland cement (25% vol.), water (10% vol), and hydration additives (2% by volume); it is available in standard thicknesses 12 mm. The basic size of the board is 3,350 x 1,250 mm. We deliver the boards cut to the sizes specified by the customer, with rounded edge or chamfered edge to 45° angle, milled starting with half-groove. The boards may also be delivered with pre-drilled holes. The cement-bonded particleboard are used mainly as a structural material in cases where moisture resistance, strength, fire resistance, ecological and hygienic harmlessness are required at the same time. CETRIS® Boards do not contain either asbestos or formaldehyde; they are resistant to insects and mold exposure. They are fireproof and can provide sound insulation. The boards can be worked with conventional woodworking tools.

Technical specifications:

basic size:	3,350 x 1,250 mm
board thicknesses:	12 mm
Bulk density:	1,150-1,450 kg/m ³
service: to customer's requirements	cutting, drilling holes, shrinkage, edge cutting and milling
Surface:	smooth
surface finish:	tinted with black pigment in the mass

Table of basic physical and mechanical properties of CETRIS® cement-bonded particleboards:	Limit values according to standard	Mean values - real
Bulk density acc. to EN 323:	min. 1,000 kg/m ³	1,350 kg/m ³
Bending tensile strength acc. to EN 310	min. 9.0 N/mm ²	min. 11.5 N/mm ²
Modulus of elasticity acc. to EN 310	min. 4,500 N/mm ²	min. 6,800 N/mm ²
Tensile strength perpendicular to the board plane acc. to EN 319	min. 0.5 N/mm ²	min. 0.63 N/mm ²
Internal bond after cycling in a humid environment according to EN 321	min. 0.3 N/mm ²	min. 0.41 N/mm ²
Reaction to fire acc. to EN 13 501-1		A2-s1, d0
Index of flame propagation along the surface acc. to the Czech standard ČSN 73 0863		i = 0 mm/min
Thickness swelling when stored in water for 24 hours	max. 1.5 %	max. 0.28 %
Thickness swelling after cycling in a humid environment according to EN 321	max. 1.5 %	max. 0.31 %
Linear expansion with changes in humidity from 35% to 85% at 23 °C according to EN 13 009		max. 0.122 %
Water absorption by the board when stored in water for 24 hours		max. 16 %
Thermal expansion coefficient acc. to EN 13 471		10 × 10 ⁻⁶ K ⁻¹

Coefficient of thermal conductivity acc. EN 12 664; thickness 8 to 40 mm		0.200 - 0.287W/mK
Airborne sound insulation according to Czech standard CSN 73 0513, th.8 to 40mm		30 dB – 35 dB
Diffusion resistance factor according to DIN EN ISO 12572, th.8 to 40		52.8 – 69.2
Resistance to frost at 100 cycles according to EN 1328	$R_L > 0.7$	$R_L = 0.97$
pH of the board material		12,5
Mass activity Ra 226	150 Bq/kg	22 Bq/kg
Mass activity index	$I = 0.5$	$I = 0.21$
Surface resistance to water and chemical de-icing agents acc. to Czech standard CSN 73 1326	Waste after 100 cycles max. 800 g/m2 (Method A)	Waste after 100 cycles max. 20.4 g/m2 (Method A)
	Waste after 75 cycles max. 800 g/m2 (Method C)	Waste after 100 cycles max. 47.8 g/m2 (Method C)
Resistance to arc discharge of high voltage according to EN 61 621		th. 10mm, min.143 sec
Shearing friction coefficient acc. to the Czech standard ČSN 74 4507		Static $\mu_s = 0.73$
		dynamic $\mu_d = 0.76$
Mass balanced humidity at 20° and a relative humidity of 50% according to EN 634-1	$9 \pm 3 \%$	9.50%

Dimensional toleran

Feature	Board thickness	Requirement
Thickness of uncut board	12 mm	± 1.0 mm
Length and width of the basic fo		± 5.0 mm
Precision of cutting the length a		± 3.0 mm
Edge straightness tolerance		1.5 mm/m
Rectangularity tolerance		2.0 mm/m

Appearance:

Parameter	I.Quality class	II.Quality class
Deviation from the right angle	max. 2 mm/1 m of length	max. 4 mm/1 m of length
Permitted edge damage	max. to the depth of 3 mm	max. to the depth of 30 mm
Protrusions on the surface	max.1 mm, size 10 mm	max. 1 mm
Depressions	max.1 mm, size 10 mm	max. 2 mm

CETRIS® PD

CETRIS® PD tongue-and-groove cement-bonded particleboard has a smooth surface, and it is produced by pressing a mixture of wood chips (63% vol.), Portland cement (25% by volume), water (10% vol.), and moisturizing ingredients (2% vol.), followed by cutting and milling. The boards are manufactured in a standard format 1,250 x 625 mm, thickness 16, 18, 20, 22, 24, 26, 28 mm, and with keyed circumference. Primarily, the boards are designed for dry floor technology, i.e. they are laid on beams or may be used for renovation of old floors. The cement-bonded particleboard are used mainly as a structural material in cases where moisture resistance, strength, fire resistance, ecological and hygienic harmlessness are required at the same time. CETRIS® Boards do not contain either asbestos or formaldehyde; they are resistant to insects and mold exposure. They are fireproof and can provide sound insulation.

Technical specifications:

basic size:	1,250 x 625 mm (including the tongue)
board thicknesses:	16-18-20-22-24-26-28 mm
Bulk density:	1,150-1,450 kg/m ³
service:	milled edges with tongue and groove
thickness tolerance:	±1.2 mm (th. 16 and 18 mm), ±1.5 mm (others)
surface finish:	without surface finish

Table of basic physical and mechanical properties of CETRIS® cement-bonded particleboards:	Limit values according to standard	Mean values - real
Bulk density acc. to EN 323:	min. 1,000 kg/m ³	1,350 kg/m ³
Bending tensile strength acc. to EN 310	min. 9.0 N/mm ²	min. 11.5 N/mm ²
Modulus of elasticity acc. to EN 310	min. 4,500 N/mm ²	min. 6,800 N/mm ²
Tensile strength perpendicular to the board plane acc. to EN 319	min. 0.5 N/mm ²	min. 0.63 N/mm ²
Internal bond after cycling in a humid environment according to EN 321	min. 0.3 N/mm ²	min. 0.41 N/mm ²
Reaction to fire acc. to EN 13 501-1		A2-s1, d0
Index of flame propagation along the surface acc. to the Czech standard ČSN 73 0863		i = 0 mm/min
Thickness swelling when stored in water for 24 hours	max. 1.5 %	max. 0.28 %
Thickness swelling after cycling in a humid environment according to EN 321	max. 1.5 %	max. 0.31 %
Linear expansion with changes in humidity from 35% to 85% at 23 °C according to EN 13 009		max. 0.122 %
Water absorption by the board when stored in water for 24 hours		max. 16 %
Thermal expansion coefficient acc. to EN 13 471		10 × 10 ⁻⁶ K ⁻¹
Coefficient of thermal conductivity acc. EN 12 664; thickness 8 to 40 mm		0.200 - 0.287 W/mK
Airborne sound insulation according to Czech standard CSN 73 0513, th.8 to 40mm		30 dB – 35 dB
Diffusion resistance factor according to DIN EN ISO 12572, th.8 to 40		52.8 – 69.2
Resistance to frost at 100 cycles according to EN 1328	R _L > 0.7	R _L = 0.97
pH of the board material		12.5
Mass activity Ra 226	150 Bq/kg	22 Bq/kg
Mass activity index	I = 0.5	I = 0.21
Surface resistance to water and chemical de-icing agents acc. to Czech standard CSN 73 1326	Waste after 100 cycles max. 800 g/m ² (Method A)	Waste after 100 cycles max. 20.4 g/m ² (Method A)
	Waste after 75 cycles max. 800 g/m ² (Method C)	Waste after 100 cycles max. 47.8 g/m ² (Method C)
Resistance to arc discharge of high voltage according to EN 61 621		th. 10mm, min.143 sec
Shearing friction coefficient acc. to the Czech standard ČSN 74 4507		Static μs = 0.73
		dynamic μd = 0.76
Mass balanced humidity at 20° and a relative humidity of 50% according to EN 634-1	9 ±3 %	9.50%

Dimensional tolerance:

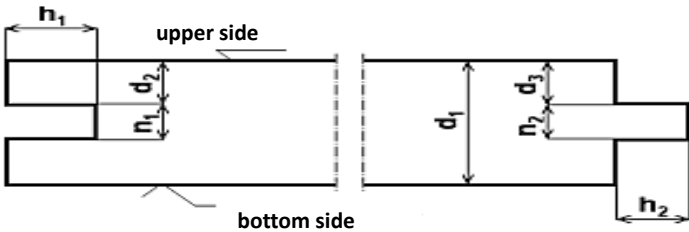
Feature	Board thickness	Requirement
Length and width of the basic format	16-28mm	±5.0 mm
Precision of cutting the length and width	16-28mm	±3.0 mm
Edge straightness tolerance	16-28mm	1.5 mm/m
Rectangularity tolerance	16-28mm	2.0 mm/m

Appearance:

Parameter	I.Quality class
Deviation from the right angle	max. 2 mm/1 m of length
Permitted edge damage	max. to the depth of 3 mm
Protrusions on the surface	max.1 mm, size 10 mm
Depressions	max.1 mm, size 10 mm

Sizes of tongue and groove (all data in mm)

d1	16	18	20	22	24	26	28
n2	5,5	5,5	5,5	5,5	7	7	7
n1	6	6	6	6	8	8	8
d2	5	6	7	8	8	9	10
d3	5,25	6,25	7,25	8,25	8,5	9,5	10,5
h1	10	10	10	10	10	10	10
h2	8,5	8,5	8,5	8,5	8,5	8,5	8,5



Dimension	Tolerance	Dimension	Tolerance
d2	± 0.5	d3	± 0.5
n1	0 / +0.5	n2	- 0.5 / 0
h1	0 / +2	h2	- 2 / 0

Board size for types PD and PDB, without tongue – 617 x 1242mm



Technical Data Sheet (TDS)

CETRIS® PDB



CETRIS® PDB tongue-and-groove cement-bonded particleboard has a smooth surface and is calibrated by grinding; it is produced by pressing a mixture of wood chips (63% vol.), Portland cement (25% by volume), water (10% vol.), and moisturizing ingredients (2% vol.), followed by cutting and milling. The adjustment reduces thickness tolerance to ± 0.3 mm. The boards are manufactured in a standard format 1,250 x 625 mm, thickness 16, 18, 20, 22, 24, 26, 28mm (on the basis of agreement 30-32-34-36-38mm), and with keyed circumference. Primarily, they are designed for dry floor technology, i.e. for installation on beams or renovating of old floors. They are also ideal as a base under a loosely deposited thin floor covering. The cement-bonded particleboard are used mainly as a structural material in cases where moisture resistance, strength, fire resistance, ecological and hygienic harmlessness are required at the same time. CETRIS® Boards do not contain either asbestos or formaldehyde; they are resistant to insects and mold exposure. They are fireproof and can provide sound insulation.

Technical specifications:

basic size:	1,250 x 625 mm (including the tongue)
board thicknesses:	16-18-20-22-24-26-28mm (on the basis of agreement 30-32-34-36-38mm)
Bulk density:	1,150-1,450 kg/m ³
service: to customer's requirements.	milled edges with tongue and groove
thickness tolerance:	± 0.3 mm
surface finish:	without surface finish

Table of basic physical and mechanical properties of CETRIS® cement-bonded particleboards:	Limit values according to standard	Mean values - real
Bulk density acc. to EN 323:	min. 1,000 kg/m ³	1,350 kg/m ³
Bending tensile strength acc. to EN 310	min. 9.0 N/mm ²	min. 11.5 N/mm ²
Modulus of elasticity acc. to EN 310	min. 4,500 N/mm ²	min. 6,800 N/mm ²
Tensile strength perpendicular to the board plane acc. to EN 319	min. 0.5 N/mm ²	min. 0.63 N/mm ²
Internal bond after cycling in a humid environment according to EN 321	min. 0.3 N/mm ²	min. 0.41 N/mm ²
Reaction to fire acc. to EN 13 501-1		A2-s1, d0
Index of flame propagation along the surface acc. to the Czech standard ČSN 73 0863		i = 0 mm/min
Thickness swelling when stored in water for 24 hours	max. 1.5 %	max. 0.28 %
Thickness swelling after cycling in a humid environment according to EN 321	max. 1.5 %	max. 0.31 %
Linear expansion with changes in humidity from 35% to 85% at 23 °C according to EN 13 009		max. 0.122 %
Water absorption by the board when stored in water for 24 hours		max. 16 %
Thermal expansion coefficient acc. to EN 13 471		10 × 10 ⁻⁶ K ⁻¹
Coefficient of thermal conductivity acc. EN 12 664; thickness 8 to 40 mm		0.200 - 0.287 W/mK
Airborne sound insulation according to Czech standard CSN 73 0513, th.8 to 40mm		30 dB – 35 dB
Diffusion resistance factor according to DIN EN ISO 12572, th.8 to 40		52.8 – 69.2
pH of the board material		12,5
Mass activity Ra 226	150 Bq/kg	22 Bq/kg
Mass activity index	I = 0.5	I = 0.21
Resistance to arc discharge of high voltage according to EN 61 621		th. 10mm, min.143 sec
Shearing friction coefficient acc. to the Czech standard ČSN 74 4507		Static μ_s = 0.73
		dynamic μ_d = 0.76
Mass balanced humidity at 20° and a relative humidity of 50% according to EN 634-1	9 $\pm$ 3 %	9.50%

Dimensional tolerance:

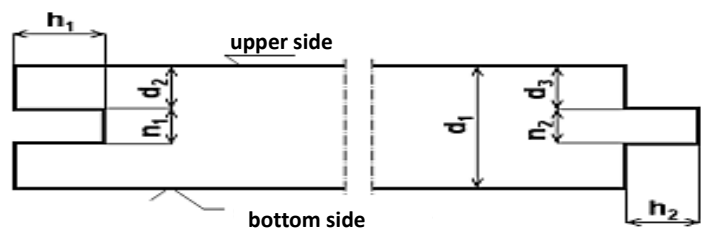
Feature	Board thickness	Requirement
Length and width of the basic format	16-28mm	± 5.0 mm
Precision of cutting the length and width	16-28mm	± 3.0 mm
Edge straightness tolerance	16-28mm	1.5 mm/m
Rectangularity tolerance	16-28mm	2.0 mm/m

Appearance:

Parameter	I.Quality class
Deviation from the right angle	max. 2 mm/1 m of length
Permitted edge damage	max. to the depth of 3 mm
Protrusions on the surface	max.1 mm, size 10 mm
Depressions	max.1 mm, size 10 mm

Sizes of tongue and groove (all data in mm)

d1	16	18	20	22	24	26	28
n2	5,5	5,5	5,5	5,5	7	7	7
n1	6	6	6	6	8	8	8
d2	5	6	7	8	8	9	10
d3	5,25	6,25	7,25	8,25	8,5	9,5	10,5
h1	10	10	10	10	10	10	10
h2	8,5	8,5	8,5	8,5	8,5	8,5	8,5



Dimension	Tolerance	Dimension	Tolerance
d2	± 0.5	d3	± 0.5
n1	0 / +0.5	n2	- 0.5 / 0
h1	0 / +2	h2	- 2 / 0

Board size for types PD and PDB, without tongue – 617 x 1242mm



Technical Data Sheet (TDS)

CETRIS® PROFIL



CETRIS PROFILE® is a cement-bonded particleboard, produced in thickness of 10 or 12 mm thickness, with embossed surface imitating the texture of wood or slate. It is produced by pressing a mixture of wood chips (63% by volume), Portland cement (25% vol.), water (10% vol.), and hydration additives (2% by volume). The basic size of the board is 3,350 x 1,250 mm. We deliver the boards cut to the sizes specified by the customer, with rounded edge or chamfered edge to 45° angle, milled boards with thickness of 12 mm rebated. Thanks to its decorative look, CETRIS® PROFIL boards are primarily used as facade walling boards in exteriors and interiors. The cement-bonded particleboard are used mainly as a structural material in cases where moisture resistance, strength, fire resistance, ecological and hygienic harmlessness are required at the same time. CETRIS® Boards do not contain either asbestos or formaldehyde; they are resistant to insects and mold exposure. They are fireproof and can provide sound insulation. The boards can be worked with conventional woodworking tools.

Technical specifications:

basic size:	3,350 x 1,250 mm
board thicknesses:	10 – 12mm
Bulk density:	1,150-1,450 kg/m ³
service: to customer's requirements.	cutting, drilling holes, shrinkage, edge cutting and milling
Surface:	Relief: wood and slate
surface finish:	without surface finish

Table of basic physical and mechanical properties of CETRIS® cement-bonded particleboards:	Limit values according to standard	Mean values - real
Bulk density acc. to EN 323:	min. 1,000 kg/m ³	1,350 kg/m ³
Bending tensile strength acc. to EN 310	min. 9.0 N/mm ²	min. 11.5 N/mm ²
Modulus of elasticity acc. to EN 310	min. 4,500 N/mm ²	min. 6,800 N/mm ²
Tensile strength perpendicular to the board plane acc. to EN 319	min. 0.5 N/mm ²	min. 0.63 N/mm ²
Internal bond after cycling in a humid environment according to EN 321	min. 0.3 N/mm ²	min. 0.41 N/mm ²
Reaction to fire acc. to EN 13 501-1		A2-s1, d0
Index of flame propagation along the surface acc. to the Czech standard ČSN 73 0863		i = 0 mm/min
Thickness swelling when stored in water for 24 hours	max. 1.5 %	max. 0.28 %
Thickness swelling after cycling in a humid environment according to EN 321	max. 1.5 %	max. 0.31 %
Linear expansion with changes in humidity from 35% to 85% at 23 °C according to EN 13 009		max. 0.122 %
Water absorption by the board when stored in water for 24 hours		max. 16 %
Thermal expansion coefficient acc. to EN 13 471		10 × 10 ⁻⁶ K ⁻¹
Coefficient of thermal conductivity acc. EN 12 664; thickness 8 to 40 mm		0.200 - 0.287W/mK
Airborne sound insulation according to Czech standard CSN 73 0513, th.8 to 40mm		30 dB – 35 dB
Diffusion resistance factor according to DIN EN ISO 12572, th.8 to 40		52.8 – 69.2
Resistance to frost at 100 cycles according to EN 1328	R _f > 0.7	R _f = 0.97
pH of the board material		12,5
Mass activity Ra 226	150 Bq/kg	22 Bq/kg
Mass activity index	I = 0.5	I = 0.21
Surface resistance to water and chemical de-icing agents acc. to Czech standard CSN 73 1326	Waste after 100 cycles max. 800 g/m ² (Method A)	Waste after 100 cycles max. 20.4 g/m ² (Method A)
	Waste after 75 cycles max. 800 g/m ² (Method C)	Waste after 100 cycles max. 47.8 g/m ² (Method C)
Resistance to arc discharge of high voltage according to EN 61 621		th. 10mm, min.143 sec
Shearing friction coefficient acc. to the Czech standard ČSN 74 4507		Static μs = 0.73
		dynamic μd = 0.76
Mass balanced humidity at 20° and a relative humidity of 50% according to EN 634-1	9 ±3 %	9.50%

Dimensional tolerance:

Feature	Board thickness	Requirement
Thickness of uncut board	10 mm	±0.7 mm
	12 mm	±1.0 mm
Length and width of the basic format		±5.0 mm
Precision of cutting the length and width		±3.0 mm
Edge straightness tolerance		1.5 mm/m
Rectangularity tolerance		2.0 mm/m

Appearance:

Parameter	I.Quality class	II.Quality class
Deviation from the right angle	max. 2 mm/1 m of length	max. 4 mm/1 m of length
Permitted edge damage	max. to the depth of 3 mm	max. to the depth of 30 mm
Protrusions on the surface	max.1 mm, size 10 mm	max. 1 mm
Depressions	max.1 mm, size 10 mm	max. 2 mm

Hranice, am 3. November 2021

Borinhalt in der zementgebundenen Spanplatte Cetris

Sehr geehrte Damen und Herren,

hiermit bestätigen wir, dass die zementgebundene Spanplatte CETRIS keinen chemischen Holzschutz beinhaltet. Genauso wird die Platte mit keinem Produkt behandelt, das das Bor-Element beinhaltet.

Mit freundlichem Gruss



Dipl. -Ing. Martin Klvač
Direktor Cetris

Type III Environmental Declaration – Environmental Product Declaration

In accordance with ISO 14025 and EN 15804 + A2

Cement-bonded particleboards CETRIS®



Company

CIDEM Hranice, a.s. - CETRIS Division is a producer of board material marketed under the CETRIS® cement-bonded particleboard trademark. The construction of a plant for manufacturing cement-bonded particleboard in the Czech Republic was initiated in 1987, and the plant was commissioned in 1991. In 2011, it was a full 20 years since the material was launched onto the market. During the first years of production, the range was limited to the basic CETRIS® BASIC board without a surface finish. Gradually, the product portfolio expanded, including a variety of services, such as cutting, milling, grinding, drilling, surface finish, etc. At present, we offer 17 types of cement-bonded particleboard and are continually developing new types to satisfy the needs and requirements of our customers. CIDEM Hranice, a.s. - CETRIS division is currently the largest producer of cement-bonded particleboards in Europe. The production line capacity is 55 000 m³ per year.

Product description

Declared unit	1 m ³ of Cement bonded particleboards
UN CPC	375 Articles of concrete, cement and plaster 3752 Boards, blocks and similar articles of vegetable fibre, straw or wood waste agglomerated with mineral binders
This EPD is valid for the following products:	Cement-bonded particle board CETRIS - basic Cement-bonded particle board CETRIS - custom-made Cement-bonded particle board CETRIS - painted, without other services Cement-bonded particle board CETRIS - painted, with other services

CETRIS® BASIC is cement-bonded particleboard with the smooth naturally cement-grey surface. It is produced by pressing a mixture of wood chips (63% by volume), Portland cement (25% vol.), water (10% vol), and hydration additives (2% by volume); it is available in standard thicknesses of 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, and 32 mm. Upon prior agreement, it is also possible to deliver the following thicknesses: 34, 36, 38 and 40 mm. The basic size of the board is 3 350 x 1 250 mm. We deliver the boards cut to the sizes specified by the customer, with a rounded edge or chamfered edge to 45° angle, milled starting from the 12-mm thickness with half-groove, beginning from the 16-mm thickness with tongue and groove. The boards may also be delivered with pre-drilled holes. The cement-bonded particleboard is used mainly as a structural material in cases where moisture resistance, strength, fire resistance, ecological and hygienic harmlessness are required at the same time. CETRIS® Boards do not contain either asbestos or formaldehyde; they are resistant to insects and mould exposure. They are fireproof and can provide sound insulation. The boards can be worked with conventional woodworking tools.

CETRIS® cement-bonded particleboards are non-structural elements used for internal or external applications in dry or humid conditions (thickness < 16,0 mm) and structural elements used for internal or external applications in dry or humid conditions (thickness ≥ 16,0 mm). The boards can be used in wall and floor structures, in fire-resistant applications and as façade and balcony boards.

System boundary and production process

The system boundary is "Cradle to gate" with modules C1–C4 and module D (A1–A3 + C + D). It covers the production of raw materials, all relevant transport down to factory gate and manufacturing by CIDEM Hranice, a.s. deconstruction, transport on landfill and landfilling. The review framework comprises the following details:

- Raw materials acquisition and transport,
- Further processing of raw materials,
- Production operations,
- Energy and water consumption,
- Waste management,
- Packaging of the final product for delivery,
- Typical deconstruction using heavy equipment,
- Transport and landfilling.

Reference service life:	The reference service life is the same as the building.
Time representativeness:	Specific data about the manufacturer were based on the 1-year average (the reference year 2019). Time scope less than 10-years were applied for background data.

Cut off rules:	The cut-off criterion was chosen based on the used PCR. According to the used PCR, more than 95 % of flows were included.
Database(s) and LCA software used:	GaBi software, GaBi database and EcolInvent database
Allocations:	As a general allocation rule, allocation on 1 m ³ of the product was chosen. No secondary material and/or fuels used in production.
Geographical scope:	Europe, Global

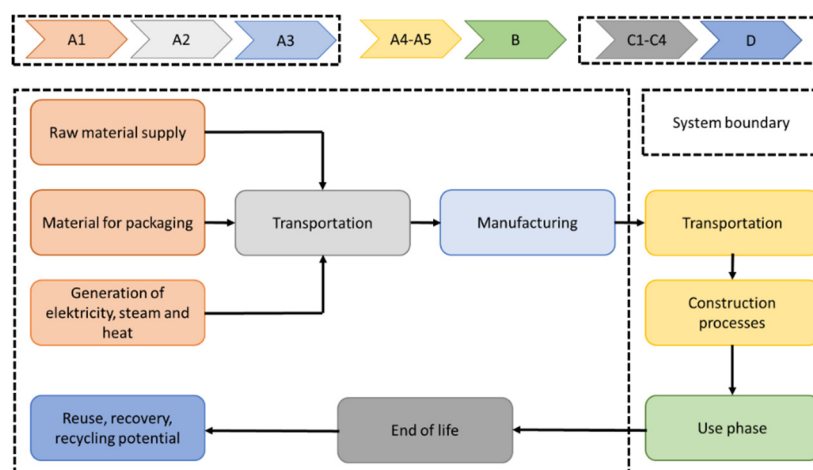


Figure 1 System Boundary of the LCA study conducted on CIDEM Hranice, a.s cement-bonded particleboard

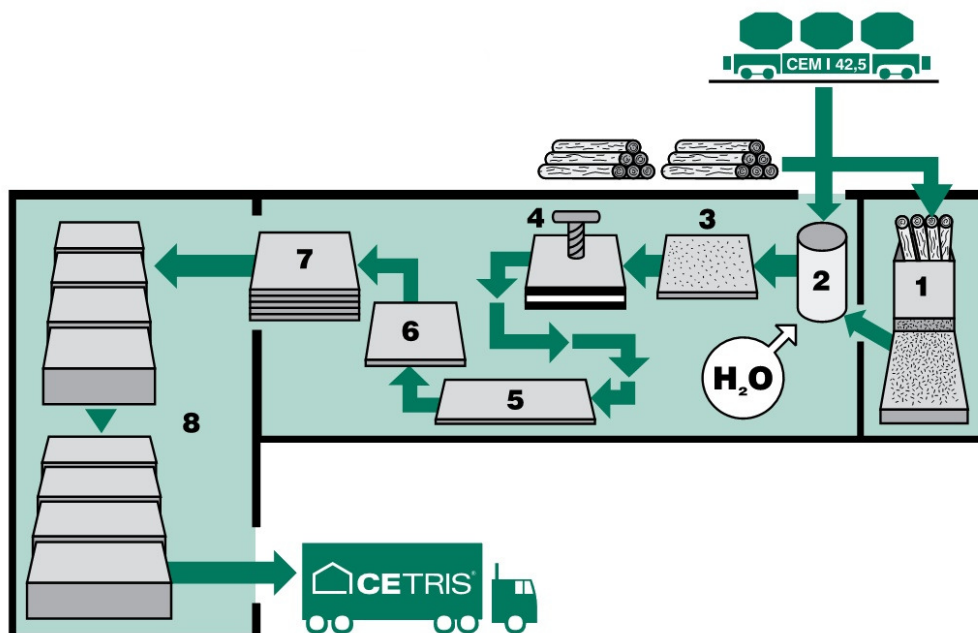


Figure 2 Production flow-chart of CIDEM Hranice, a.s cement-bonded particleboard: 1 spilling; 2 preparation of mixture; 3 layering of boards; 4 pressing; 5 drying; 6 formatting; 7 storage; 8 transport

Table 1 Description of the system boundary (D = Declared, Included in LCA, ND = Module Not Declared)

A1 - A3 Product stage	Raw material supply	A1	D
	Transport	A2	D
	Manufacturing	A3	D
A4 - A5 Construction process	Transport from the gate to the site	A4	ND
	Assembly	A5	ND
B1 - B7 Use stage	Use	B1	ND
	Maintenance	B2	ND
	Repair	B3	ND
	Replacement	B4	ND
	Refurbishment	B5	ND
	Operational water use	B6	ND
	Operational energy use	B7	ND
C1 - C4 End of life stage	De-construction	C1	D
	Transport	C2	D
	Waste processing	C3	D
	Disposal	C4	D
D Benefits and loads beyond the system boundaries	Reuse- Recycling - Recovery Potential	D	D

Content declaration

The CIDEM Hranice, a.s cement-bonded particleboards consists of Portland cement and a mixture of wooden chips. All of the constituents of cement-bonded particleboard are not classified as harmful, nor are listed on the list of Substances of Very High Concern (SVHC).

Table 2 Product content declaration

All materials/components	Substances	Volume %	CAS number	Environmental class	Health class
Mixture of wood chips	-	63	-	No	No
Portland cement	-	25	-	No	No
Water	-	10	-	No	No
Hydration additives	-	2	-	No	No

Environmental performance

Environmental indicators shown below are calculated according to ISO 14025 and EN 15804+A2:2019. Results per declared unit – 1 m³ of cement-bonded particleboard are presented.

Use of resources

Following table represents Life Cycle Inventory Analysis indicator results.

Table 3 Resource use. Summarization of modules A1 – A3, C1-C4 a D.

Resource consumption	Unit	CETRIS Basic	CETRIS custom made	CETRIS painted, without other services	CETRIS painted, with additional services
Crude oil	MJ	1143	1254	1607	1718
Hard coal	MJ	914	1017	1749	1852
Lignite	MJ	1344	1503	3319	3478
Natural gas	MJ	696	770	1540	1614
Soil	Kg	138	153	149	164
Clay	Kg	91	102	95	106
Gravel	Kg	90	100	90	100
Inert rock	Kg	1676	1874	4059	4256
Limestone (calcium carbonate)	Kg	1253	1393	1323	1462
Natural Aggregate	Kg	129	143	132	146

Potential environmental impacts

Environmental impacts per declared unit for each module are reported in the following tables.

In the tables, following abbreviations are used:

- PERE: Use of renewable primary energy excluding resources used as raw materials,
- PERM: Use of renewable primary energy resources used as raw materials,
- PERT: Total use of renewable primary energy,
- PENRE: Use of non-renewable primary energy excluding resources used as raw materials,
- PENRM: Use of nonrenewable primary energy resources used as raw materials,
- PENRT: Total use of non-renewable primary energy.

Table 4 CETRIS boards basic: Parameters describing environmental impact

Parameter	Unit	A1	A2	A3	C1	C2	C3	C4	D
Climate change - total	kg CO ₂ eq.	-1.92E+01	1.08E+01	9.92E-01	8.40E-01	1.05E+01	0.00E+00	1.89E+01	0.00E+00
Climate change - fossil	kg CO ₂ eq.	8.01E+02	1.07E+01	-5.59E+00	8.71E-01	1.04E+01	0.00E+00	2.05E+01	0.00E+00
Climate change - biogenic	kg CO ₂ eq.	-8.21E+02	-1.81E-02	6.59E+00	-3.83E-02	-1.76E-02	0.00E+00	-1.62E+00	0.00E+00
Climate change - land use and land use change	kg CO ₂ eq.	3.82E-01	8.73E-02	-1.13E-02	6.77E-03	8.48E-02	0.00E+00	5.90E-02	0.00E+00
Ozone Depletion	kg CFC 11 eq.	8.31E-06	1.98E-15	8.63E-13	1.53E-16	1.92E-15	0.00E+00	7.67E-14	0.00E+00
Acidification	mol H ⁺ eq.	1.32E+00	6.27E-02	2.47E-02	4.27E-03	6.04E-02	0.00E+00	1.47E-01	0.00E+00
Eutrophication aquatic freshwater	kg P eq.	1.90E-02	3.28E-05	6.76E-05	2.55E-06	3.19E-05	0.00E+00	3.53E-05	0.00E+00
Eutrophication aquatic marine	kg N eq.	3.50E-01	3.02E-02	2.33E-02	1.98E-03	2.91E-02	0.00E+00	3.78E-02	0.00E+00
Eutrophication terrestrial	mol N eq.	3.81E+00	3.35E-01	2.51E-01	2.19E-02	3.22E-01	0.00E+00	4.16E-01	0.00E+00
Photochemical ozone formation	kg NMVOC eq.	1.31E+00	5.84E-02	6.73E-02	5.54E-03	5.63E-02	0.00E+00	1.15E-01	0.00E+00
Depletion of abiotic resources - minerals and metals	kg Sb eq.	4.42E-04	8.72E-07	-1.94E-04	6.76E-08	8.47E-07	0.00E+00	1.85E-06	0.00E+00
Depletion of abiotic resources - fossil fuels	MJ, net calorific value	4.34E+03	1.44E+02	-7.12E+01	1.12E+01	1.40E+02	0.00E+00	2.69E+02	0.00E+00
Water use	m ³ world eq. deprived	3.68E+03	1.05E-01	1.98E+00	8.15E-03	1.02E-01	0.00E+00	2.14E+00	0.00E+00
Particulate matter emissions	Disease incidence	2.22E-05	2.30E-07	-4.29E-07	4.81E-08	2.28E-07	0.00E+00	1.82E-06	0.00E+00
Ionizing radiation, human health	kBq U235 eq.	2.72E+01	3.93E-02	-1.98E-02	3.05E-03	3.81E-02	0.00E+00	3.03E-01	0.00E+00
Ecotoxicity (freshwater)	CTUe	1.45E+04	1.08E+02	-3.35E+01	8.35E+00	1.05E+02	0.00E+00	1.53E+02	0.00E+00
Human toxicity, cancer effects	CTUh	3.90E-07	2.23E-09	-1.41E-09	1.73E-10	2.16E-09	0.00E+00	2.27E-08	0.00E+00
Human toxicity, noncancer effects	CTUh	7.59E-06	1.20E-07	1.48E-06	1.02E-08	1.17E-07	0.00E+00	2.51E-06	0.00E+00
Land use related impacts / soil quality	Pt	4.71E+04	5.05E+01	-9.91E+00	3.92E+00	4.90E+01	0.00E+00	5.85E+01	0.00E+00

Table 5 CETRIS boards basic: Parameters describing resource use, waste and outputs flows

Parameter	Unit	A1	A2	A3	C1	C2	C3	C4	D
PERE	MJ	1.03E+04	8.32E+00	-1.48E+01	6.45E-01	8.08E+00	0.00E+00	3.53E+01	0.00E+00
PERM	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT	MJ	1.03E+04	8.32E+00	-1.48E+01	6.45E-01	8.08E+00	0.00E+00	3.53E+01	0.00E+00
PENRE	MJ	4.34E+03	1.44E+02	-7.13E+01	1.12E+01	1.40E+02	0.00E+00	2.69E+02	0.00E+00
PENRM	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PENRT	MJ	4.34E+03	1.44E+02	-7.13E+01	1.12E+01	1.40E+02	0.00E+00	2.69E+02	0.00E+00
Use of secondary material	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of renewable secondary fuels	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of non-renewable secondary fuels	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Water	m ³	8.65E+01	9.69E-03	6.28E-03	7.52E-04	9.41E-03	0.00E+00	6.76E-02	0.00E+00
Hazardous waste disposed	kg	9.49E-06	6.68E-06	-1.96E-07	5.18E-07	6.49E-06	0.00E+00	4.10E-06	0.00E+00
Non hazardous waste disposed	kg	5.50E+00	2.29E-02	7.47E+00	1.78E-03	2.22E-02	0.00E+00	1.35E+03	0.00E+00
Radioactive waste disposed	kg	2.52E-01	2.66E-04	-2.47E-04	2.06E-05	2.59E-04	0.00E+00	3.01E-03	0.00E+00
Components for reuse	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Material for recycling	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Material for energy recovery	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported energy electrical	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported energy thermal	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Table 6 CETRIS boards custom made: Parameters describing environmental impact

Parameter	Unit	A1	A2	A3	C1	C2	C3	C4	D
Climate change - total	kg CO ₂ eq.	-1.75E+01	1.20E+01	3.67E+00	8.40E-01	1.05E+01	0.00E+00	1.89E+01	0.00E+00
Climate change - fossil	kg CO ₂ eq.	8.91E+02	1.19E+01	-3.47E+00	8.71E-01	1.04E+01	0.00E+00	2.05E+01	0.00E+00
Climate change - biogenic	kg CO ₂ eq.	-9.09E+02	-2.01E-02	7.14E+00	-3.83E-02	-1.76E-02	0.00E+00	-1.62E+00	0.00E+00
Climate change - land use and land use change	kg CO ₂ eq.	4.27E-01	9.70E-02	-2.21E-03	6.77E-03	8.48E-02	0.00E+00	5.90E-02	0.00E+00
Ozone Depletion	kg CFC 11 eq.	9.20E-06	2.20E-15	9.67E-13	1.53E-16	1.92E-15	0.00E+00	7.67E-14	0.00E+00
Acidification	mol H ⁺ eq.	1.47E+00	6.96E-02	4.65E-02	4.27E-03	6.04E-02	0.00E+00	1.47E-01	0.00E+00
Eutrophication aquatic freshwater	kg P eq.	2.09E-02	3.65E-05	8.04E-05	2.55E-06	3.19E-05	0.00E+00	3.53E-05	0.00E+00
Eutrophication aquatic marine	kg N eq.	3.89E-01	3.36E-02	3.14E-02	1.98E-03	2.91E-02	0.00E+00	3.78E-02	0.00E+00
Eutrophication terrestrial	mol N eq.	4.23E+00	3.72E-01	3.40E-01	2.19E-02	3.22E-01	0.00E+00	4.16E-01	0.00E+00
Photochemical ozone formation	kg NMVOC eq.	1.45E+00	6.49E-02	9.00E-02	5.54E-03	5.63E-02	0.00E+00	1.15E-01	0.00E+00
Depletion of abiotic resources - minerals and metals	kg Sb eq.	4.90E-04	9.69E-07	-2.15E-04	6.76E-08	8.47E-07	0.00E+00	1.85E-06	0.00E+00
Depletion of abiotic resources - fossil fuels	MJ, net calorific value	4.83E+03	1.60E+02	-4.30E+01	1.12E+01	1.40E+02	0.00E+00	2.69E+02	0.00E+00
Water use	m ³ world eq. deprived	4.03E+03	1.17E-01	2.44E+00	8.15E-03	1.02E-01	0.00E+00	2.14E+00	0.00E+00
Particulate matter emissions	Disease incidence	2.46E-05	2.55E-07	-2.65E-07	4.81E-08	2.28E-07	0.00E+00	1.82E-06	0.00E+00
Ionizing radiation, human health	kBq U235 eq.	3.02E+01	4.36E-02	1.34E-02	3.05E-03	3.81E-02	0.00E+00	3.03E-01	0.00E+00
Ecotoxicity (freshwater)	CTUe	1.60E+04	1.20E+02	-1.55E+01	8.35E+00	1.05E+02	0.00E+00	1.53E+02	0.00E+00
Human toxicity, cancer effects	CTUh	4.32E-07	2.47E-09	1.06E-09	1.73E-10	2.16E-09	0.00E+00	2.27E-08	0.00E+00
Human toxicity, noncancer effects	CTUh	8.42E-06	1.33E-07	1.93E-06	1.02E-08	1.17E-07	0.00E+00	2.51E-06	0.00E+00
Land use related impacts / soil quality	Pt	5.22E+04	5.61E+01	-2.33E+00	3.92E+00	4.90E+01	0.00E+00	5.85E+01	0.00E+00

Table 7 CETRIS boards custom made: Parameters describing resource use, waste and outputs flows

Parameter	Unit	A1	A2	A3	C1	C2	C3	C4	D
PERE	MJ	1.15E+04	9.24E+00	1.21E+01 ⁻	6.50E-01	8.08E+00	0.00E+00	3.53E+01	0.00E+00
PERM	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT	MJ	1.15E+04	9.24E+00	1.21E+01 ⁻	6.50E-01	8.08E+00	0.00E+00	3.53E+01	0.00E+00
PENRE	MJ	4.83E+03	1.60E+02	4.31E+01 ⁻	1.12E+01	1.40E+02	0.00E+00	2.69E+02	0.00E+00
PENRM	MJ	3.66E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PENRT	MJ	4.83E+03	1.60E+02	4.31E+01 ⁻	1.12E+01	1.40E+02	0.00E+00	2.69E+02	0.00E+00
Use of secondary material	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of renewable secondary fuels	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of non-renewable secondary fuels	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Water	m ³	9.47E+01	1.08E-02	1.49E-02	8.00E-04	9.40E-03	0.00E+00	6.76E-02	0.00E+00
Hazardous waste disposed	kg	1.05E-05	7.42E-06	5.26E-07	5.18E-07	6.49E-06	0.00E+00	4.10E-06	0.00E+00
Non hazardous waste disposed	kg	6.12E+00	2.54E-02	1.59E+02	1.78E-03	2.22E-02	0.00E+00	1.35E+03	0.00E+00
Radioactive waste disposed	kg	2.82E-01	3.00E-04	7.25E-05	2.06E-05	2.60E-04	0.00E+00	3.00E-03	0.00E+00
Components for reuse	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Material for recycling	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Material for energy recovery	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported energy electrical	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported energy thermal	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Table 8 CETRIS boards painted (without services): Parameters describing environmental impact

Parameter	Unit	A1	A2	A3	C1	C2	C3	C4	D
Climate change - total	kg CO ₂ eq.	3.03E+02	1.12E+01	6.39E+01	8.40E-01	1.05E+01	0.00E+00	1.89E+01	0.00E+00
Climate change - fossil	kg CO ₂ eq.	1.12E+03	1.11E+01	5.71E+01	8.71E-01	1.04E+01	0.00E+00	2.05E+01	0.00E+00
Climate change - biogenic	kg CO ₂ eq.	-8.20E+02	-2.28E-02	6.70E+00	-3.83E-02	-1.76E-02	0.00E+00	-1.62E+00	0.00E+00
Climate change - land use and land use change	kg CO ₂ eq.	7.27E-01	9.11E-02	1.85E-02	6.77E-03	8.48E-02	0.00E+00	5.90E-02	0.00E+00
Ozone Depletion	kg CFC 11 eq.	8.34E-06	2.07E-15	2.29E-10	1.53E-16	1.92E-15	0.00E+00	7.67E-14	0.00E+00
Acidification	mol H ⁺ eq.	2.15E+00	6.49E-02	2.21E-01	4.27E-03	6.04E-02	0.00E+00	1.47E-01	0.00E+00
Eutrophication aquatic freshwater	kg P eq.	1.98E-02	3.43E-05	1.37E-04	2.55E-06	3.19E-05	0.00E+00	3.53E-05	0.00E+00
Eutrophication aquatic marine	kg N eq.	5.09E-01	3.13E-02	9.13E-02	1.98E-03	2.91E-02	0.00E+00	3.78E-02	0.00E+00
Eutrophication terrestrial	mol N eq.	5.50E+00	3.46E-01	9.88E-01	2.19E-02	3.22E-01	0.00E+00	4.16E-01	0.00E+00
Photochemical ozone formation	kg NMVOC eq.	1.77E+00	6.05E-02	2.62E-01	5.54E-03	5.63E-02	0.00E+00	1.15E-01	0.00E+00
Depletion of abiotic resources - minerals and metals	kg Sb eq.	4.84E-04	9.10E-07	-1.89E-04	6.76E-08	8.47E-07	0.00E+00	1.85E-06	0.00E+00
Depletion of abiotic resources - fossil fuels	MJ, net calorific value	9.01E+03	1.50E+02	5.78E+02	1.12E+01	1.40E+02	0.00E+00	2.69E+02	0.00E+00
Water use	m ³ world eq. deprived	3.69E+03	1.10E-01	3.67E+00	8.15E-03	1.02E-01	0.00E+00	2.14E+00	0.00E+00
Particulate matter emissions	Disease incidence	3.57E-05	2.39E-07	1.56E-06	4.81E-08	2.28E-07	0.00E+00	1.82E-06	0.00E+00
Ionizing radiation, human health	kBq U235 eq.	5.81E+01	4.10E-02	1.12E+00	3.05E-03	3.81E-02	0.00E+00	3.03E-01	0.00E+00
Ecotoxicity (freshwater)	CTUe	1.65E+04	1.12E+02	2.38E+02	8.35E+00	1.05E+02	0.00E+00	1.53E+02	0.00E+00
Human toxicity, cancer effects	CTUh	5.09E-07	2.32E-09	2.34E-06	1.73E-10	2.16E-09	0.00E+00	2.27E-08	0.00E+00
Human toxicity, noncancer effects	CTUh	1.97E-05	1.25E-07	2.76E-04	1.02E-08	1.17E-07	0.00E+00	2.51E-06	0.00E+00
Land use related impacts / soil quality	Pt	4.84E+04	5.27E+01	4.80E+01	3.92E+00	4.90E+01	0.00E+00	5.85E+01	0.00E+00

Table 9 CETRIS boards painted (without services): Parameters describing resource use, waste and outputs flows

Parameter	Unit	A1	A2	A3	C1	C2	C3	C4	D
PERE	MJ	1.12E+04	8.68E+00	5.49E+01	6.45E-01	8.08E+00	0.00E+00	3.53E+01	0.00E+00
PERM	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT	MJ	1.12E+04	8.68E+00	5.49E+01	6.45E-01	8.08E+00	0.00E+00	3.53E+01	0.00E+00
PENRE	MJ	9.01E+03	1.51E+02	5.79E+02	1.12E+01	1.40E+02	0.00E+00	2.69E+02	0.00E+00
PENRM	MJ	3.30E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PENRT	MJ	9.01E+03	1.51E+02	5.79E+02	1.12E+01	1.40E+02	0.00E+00	2.69E+02	0.00E+00
Use of secondary material	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of renewable secondary fuels	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of non-renewable secondary fuels	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Water	m ³	8.79E+01	1.01E-02	1.19E-01	7.52E-04	9.41E-03	0.00E+00	6.76E-02	0.00E+00
Hazardous waste disposed	kg	1.70E-01	6.97E-06	6.14E-05	5.18E-07	6.49E-06	0.00E+00	4.10E-06	0.00E+00
Non hazardous waste disposed	kg	1.34E+01	2.39E-02	8.34E+01	1.78E-03	2.22E-02	0.00E+00	1.35E+03	0.00E+00
Radioactive waste disposed	kg	7.13E-01	2.78E-04	1.31E-02	2.06E-05	2.59E-04	0.00E+00	3.01E-03	0.00E+00
Components for reuse	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Material for recycling	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Material for energy recovery	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported energy electrical	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported energy thermal	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Table 10 CETRIS boards painted, with other services: Parameters describing environmental impact

Parameter	Unit	A1	A2	A3	C1	C2	C3	C4	D
Climate change - total	kg CO ₂ eq.	3.05E+02	1.23E+01	6.65E+01	8.40E-01	1.05E+01	0.00E+00	1.89E+01	0.00E+00
Climate change - fossil	kg CO ₂ eq.	1.21E+03	1.23E+01	5.93E+01	8.71E-01	1.04E+01	0.00E+00	2.05E+01	0.00E+00
Climate change - biogenic	kg CO ₂ eq.	-9.09E+02	-2.07E-02	7.25E+00	-3.83E-02	-1.76E-02	0.00E+00	-1.62E+00	0.00E+00
Climate change - land use and land use change	kg CO ₂ eq.	7.71E-01	1.00E-01	2.83E-02	6.77E-03	8.48E-02	0.00E+00	5.90E-02	0.00E+00
Ozone Depletion	kg CFC 11 eq.	9.23E-06	2.27E-15	2.29E-10	1.53E-16	1.92E-15	0.00E+00	7.67E-14	0.00E+00
Acidification	mol H ⁺ eq.	2.29E+00	7.18E-02	2.43E-01	4.27E-03	6.04E-02	0.00E+00	1.47E-01	0.00E+00
Eutrophication aquatic freshwater	kg P eq.	2.17E-02	3.76E-05	1.50E-04	2.55E-06	3.19E-05	0.00E+00	3.53E-05	0.00E+00
Eutrophication aquatic marine	kg N eq.	5.48E-01	3.46E-02	9.94E-02	1.98E-03	2.91E-02	0.00E+00	3.78E-02	0.00E+00
Eutrophication terrestrial	mol N eq.	5.92E+00	3.83E-01	1.08E+00	2.19E-02	3.22E-01	0.00E+00	4.16E-01	0.00E+00
Photochemical ozone formation	kg NMVOC eq.	1.91E+00	6.70E-02	2.85E-01	5.54E-03	5.63E-02	0.00E+00	1.15E-01	0.00E+00
Depletion of abiotic resources - minerals and metals	kg Sb eq.	5.33E-04	9.99E-07	-2.10E-04	6.76E-08	8.47E-07	0.00E+00	1.85E-06	0.00E+00
Depletion of abiotic resources - fossil fuels	MJ, net calorific value	9.50E+03	1.65E+02	6.07E+02	1.12E+01	1.40E+02	0.00E+00	2.69E+02	0.00E+00
Water use	m ³ world eq. deprived	4.04E+03	1.21E-01	4.13E+00	8.15E-03	1.02E-01	0.00E+00	2.14E+00	0.00E+00
Particulate matter emissions	Disease incidence	3.82E-05	2.64E-07	1.72E-06	4.81E-08	2.28E-07	0.00E+00	1.82E-06	0.00E+00
Ionizing radiation, human health	kBq U235 eq.	6.11E+01	4.50E-02	1.15E+00	3.05E-03	3.81E-02	0.00E+00	3.03E-01	0.00E+00
Ecotoxicity (freshwater)	CTUe	1.80E+04	1.23E+02	2.57E+02	8.35E+00	1.05E+02	0.00E+00	1.53E+02	0.00E+00
Human toxicity, cancer effects	CTUh	5.51E-07	2.55E-09	2.34E-06	1.73E-10	2.16E-09	0.00E+00	2.27E-08	0.00E+00
Human toxicity, noncancer effects	CTUh	2.06E-05	1.38E-07	2.76E-04	1.02E-08	1.17E-07	0.00E+00	2.51E-06	0.00E+00
Land use related impacts / soil quality	Pt	5.34E+04	5.79E+01	5.60E+01	3.92E+00	4.90E+01	0.00E+00	5.85E+01	0.00E+00

Table 11 CETRIS boards painted with other services: Parameters describing resource use, waste and outputs flows

Parameter	Unit	A1	A2	A3	C1	C2	C3	C4	D
PERE	MJ	1.23E+04	9.54E+00	5.76E+01	6.45E-01	8.08E+00	0.00E+00	3.53E+01	0.00E+00
PERM	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT	MJ	1.23E+04	9.54E+00	5.76E+01	6.45E-01	8.08E+00	0.00E+00	3.53E+01	0.00E+00
PENRE	MJ	9.50E+03	1.66E+02	6.08E+02	1.12E+01	1.40E+02	0.00E+00	2.69E+02	0.00E+00
PENRM	MJ	3.66E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PENRT	MJ	9.50E+03	1.66E+02	6.08E+02	1.12E+01	1.40E+02	0.00E+00	2.69E+02	0.00E+00
Use of secondary material	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of renewable secondary fuels	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of non-renewable secondary fuels	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Water	m ³	9.61E+01	1.11E-02	1.28E-01	7.52E-04	9.41E-03	0.00E+00	6.76E-02	0.00E+00
Hazardous waste disposed	kg	1.70E-01	7.66E-06	6.22E-05	5.18E-07	6.49E-06	0.00E+00	4.10E-06	0.00E+00
Non hazardous waste disposed	kg	1.40E+01	2.62E-02	2.34E+02	1.78E-03	2.22E-02	0.00E+00	1.35E+03	0.00E+00
Radioactive waste disposed	kg	7.44E-01	3.05E-04	1.34E-02	2.06E-05	2.59E-04	0.00E+00	3.01E-03	0.00E+00
Components for reuse	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Material for recycling	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Materials for energy recovery	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported energy electrical	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported energy thermal	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Release of dangerous substances during the use stage

No health and environmental impacts during use is observed.

Additional information

In CIDEM Hranice, a.s. - CETRIS division continuous attention is paid to the quality of our products. Already back in 1996 we obtained the EU ISO 9002 quality certificate awarded by the international accredited certification body, Lloyd's Register Quality Assurance. After a new standard was published, this system was recertified in 2003 according to the new ISO 9001 standard. The production of CETRIS® cement-bonded particleboard is further supervised by authorized and notified entities. The company exports the products to all of Europe. The cement-bonded particleboard is certified according to European harmonized standards.

Company has established and applied a combined management system for development, production, sales and services of its products.

Obtained certificates EN ISO 9001, and the commitment of the whole company's staff to quality give the customers a guarantee of a standard quality of products.

Positive attitude to the environment of CIDEM Hranice, a.s. is also declared by the certificate of PEFC obtained according to TD CFCS 2002:2013, ensuring that all wood matter used in CIDEM Hranice originated from verified resources.

For recommended use of cement-bonded particleboards follow <http://www.cidem.cz>. After the end of life, it is possible to deposit particle boards as common non-hazardous waste.

Verification related information

See PCR for detailed requirements.

Published:	1.10.2020
Valid until:	31.09.2025
Product Category Rules:	EN 15804+ A2:2019 Sustainability of Construction Works: Environmental Product Declarations core rules for the product category of construction products
Product group classification:	375 Articles of concrete, cement and plaster 3752 Boards, blocks and similar articles of vegetable fibre, straw or wood waste agglomerated with mineral binders
Reference year for data:	2019
Geographical scope:	Europe, Global

Independent verification of the declaration and data, according to ISO 14025:2006:	
☐ EPD Process Certification (internal)	☒ EPD Verification (external)
Third-party verifier: Hüdai Kara, Metsims Sustainability Consulting, United Kingdom, www.metsims.com	

Mandatory statements

The LCA for this EPD is conducted according to the guidelines of ISO 14040 and ISO 14044, the requirements given in the EN 15804+ A2:2019 Sustainability of Construction Works: Environmental Product Declarations core rules for the product category of construction products.

The inventory for the LCA study is based on the 2019 production. The production plant is located in Hranice, Czech Republic. For the development of this declaration, GaBi software with the latest version characterization factors (August 2020) and the Ecoinvent database was used.

EPD of construction products may not be comparable if they do not comply with EN 15804.

This EPD covers the Cradle to Gate stage and modules C1-C4 and D.

The EPD certificate, its background data and the results will be used for business-to-business communications and are expected to be a reliable document for green building designers, architectures, manufacturers of construction products and the other stakeholders in the construction sector to understand the potential environmental impacts caused by in CIDEM Holding.

"EPDs within the same product category but from different programmes may not be comparable."

Contact information:

EPD owner:	CIDEM Hranice, a.s. Skalní 1088, Hranice I – Město, 753 01 Hranice, Czech Republic, www.cidem.cz Contact person: Ing. Marie Libosvárová	
LCA author:	 Vladimír Kočí, PhD, Šárecká 5, 16000 Prague 6, Czech Republic www.lcastudio.cz	

References

EN 15804: EN 15804:2012+A2:2019, Sustainability of construction works - Environmental Product Declarations — Core rules for the product category of construction products

ISO 14025: DIN EN ISO 14025:2006-11: Environmental labels and declarations - Type III environmental declarations — Principles and procedures

ISO 14040: EN ISO 14040:2006-10 Environmental management — Life cycle assessment — Principles and framework

ISO 14044: 2006 Environmental management — Life cycle assessment — Requirements and guidelines

Ecoinvent: Ecoinvent Centre, www.Eco-invent.org

Thinkstep: GaBi software version 9.5, 2020, Sphera solutions.

ZERTIFIKAT

Dieses Multisitezertifikat bescheinigt, dass die

Bausal GmbH

Rollenhagen 7a · 17237 Blankensee · Deutschland

Zertifikatscode			
GFA-PEFC-COC-500539			
Ausstellungsdatum	18.03.2022	·	Ablaufdatum 17.03.2027
Ausstell-Nr.	1	·	Version 1

mit den Standorten gemäß Anlage (insgesamt 2 Standorte) von der GFA Certification GmbH anhand des Chain of Custody Standard des 2002:2020 Produktkettennachweis für Holzprodukte PEFC ST 2001-2020 PEFC Warenzeichen Anforderungen begutachtet wurde.

Das Unternehmen hat diese Anforderungen nach dem System der Physischen Trennung für die folgenden Produkte und/oder Dienstleistungen erbracht:

Handel von :

Code	Produkt Kategorie		
080000	080400	Zementgebundene	
		Spanplatte	



Jörn Ackermann, Geschäftsführer

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