PRODUCTS - Production Program

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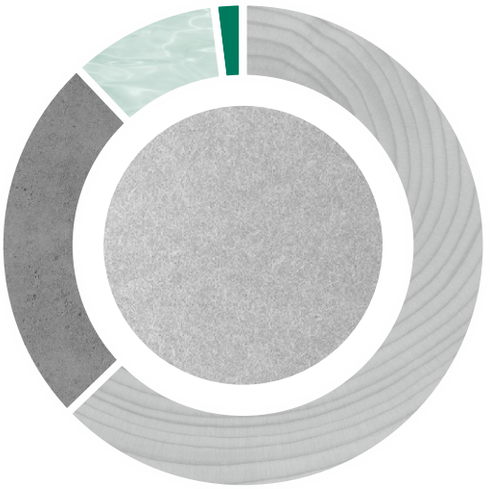
1.1 Composition of the CETRIS® Cement bonded Particleboards

CETRIS® boards are made of wood, cement, water and hydration additives. The board structure is created by pressing the wooden particles coated with cement. The finer fraction is applied on both sides on a medium coarse layer, which makes the board surface smooth.



63%	wooden particles
25%	cement
10%	water
2%	hydration additives

(volume)

1.2 Benefits of the CETRIS® Boards

The CETRIS® cement bonded particleboards combine the positive properties of cement and wood. They are lighter than traditional cement-fibre boards, their strength and resistance to weather, frost and fungi ranks them among the wood-chip-cement board or plasterboard.

Major advantages of the CETRIS® boards

Ecology
The cement bonded particleboards are ecological and environmental friendly. They do not contain dangerous substances such as asbestos and formaldehyde; they are resistant to benzene and oils.

Resistance to fire
The CETRIS® cement bonded particleboard is fire resistant and its classification according to resistance to fire class as stipulated under European standard EN 13 501-1 is A2-s1,d0 – inflammable.

Perfect sound insulation
CETRIS® boards provide for acoustic insulation (sound transmission loss 30 – 35 dB).

Frost-resistance
CETRIS® cement bonded particleboards are frost resistant, tested successfully by 100 freezing-defrosting cycles pursuant to ČSN EN 1328 standard.

Weather resistance
CETRIS® cement bonded particleboards is the best material for wet rooms and weather-exposed exteriors for its excellent humidity resistance. The thickness swelling of CETRIS® boards when stored in water for 24 hours is only max. 1.5 %.

Hygienic harmless
CETRIS® boards are hygienic harmless, odourless and contain no hazardous substances.

Fungi and mould resistance
Fungi and mould do not form on the board surface thanks to the CETRIS® board resistance to humidity.

Insect resistance
The CETRIS® cement bonded particleboards are absolutely insect resistant thanks to their cement content.

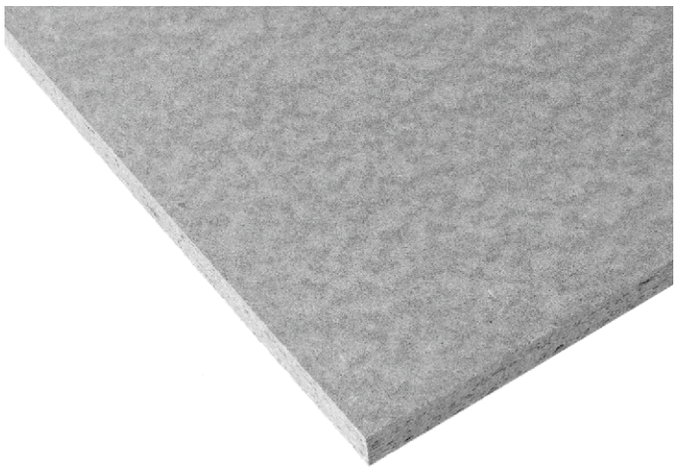
1.3 Types of CETRIS® Cement Bonded Particleboards

Boards without Surface Treatment

The basis of the production programme of the CETRIS® Division is manufacturing of one product, the CETRIS® BASIC boards. All other products are created by mechanical or surface treatment of this basic board.

1.3.1 CETRIS® BASIC

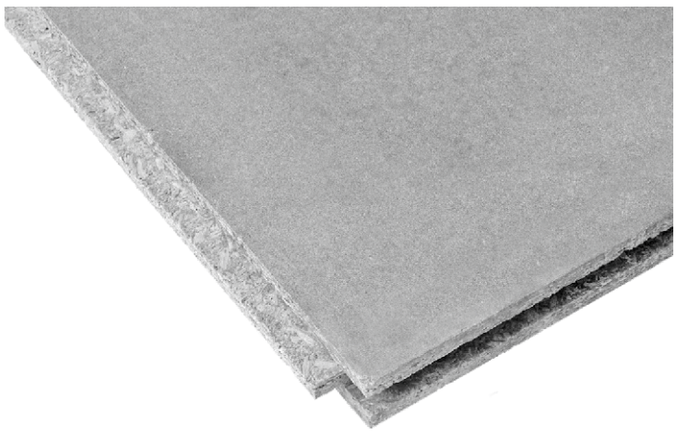
CETRIS® BASIC	Cement bonded particleboard with smooth natural grey cement surface
Board format	3350 x 1250 mm
Density	1150-1450 kg/m^3
Board thicknesses	8-10-12-14-16-18-20-22-24-26-28-30-32, as per agreement 34-36-38-40 mm
Service	According to the requirements of the customer – cutting, drilling, edge chamfering, milling...



CETRIS® BASIC is a universal structural board, which is suitable, for cladding of walls, suspended ceilings, skirting, floor, fire resistant, roof systems, etc. The boards can be supplied with service - cut to the dimensions required by the customer, rounded or chamfered edges under an angle of 45°, milling from a minimum board thickness of 12 mm with semi-groove, from a board thickness of 16 mm with groove and tongue. Pre-drilled holes may be made in the boards on request.

1.3.2 CETRIS® PD

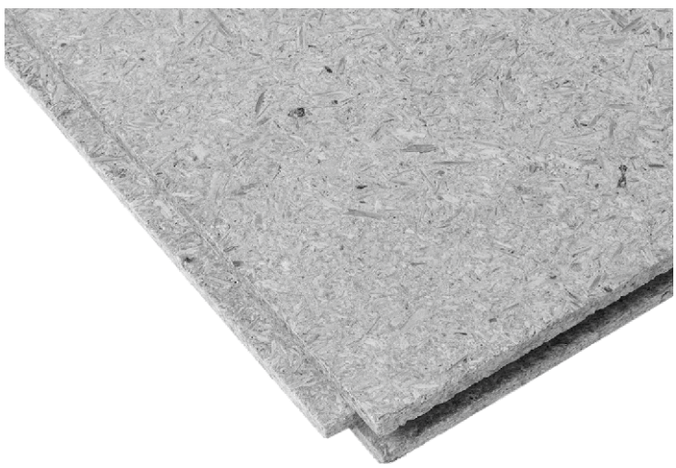
CETRIS® PD	Cement bonded particleboard with smooth grey cement surface with tongue and groove
Board format	1250 x 625 mm (including tongue) after installation 1 242 x 617 mm
Denisity	1150-1450 kg/m^3
Board thicknesses	16-18-20-22-24-26-28 mm
Service	Milling of tongue and groove edges



CETRIS® PD boards are intended for use on floors, i.e. they are laid on beams, or for renovation of old wooden floors.

1.3.3 CETRIS® PDB

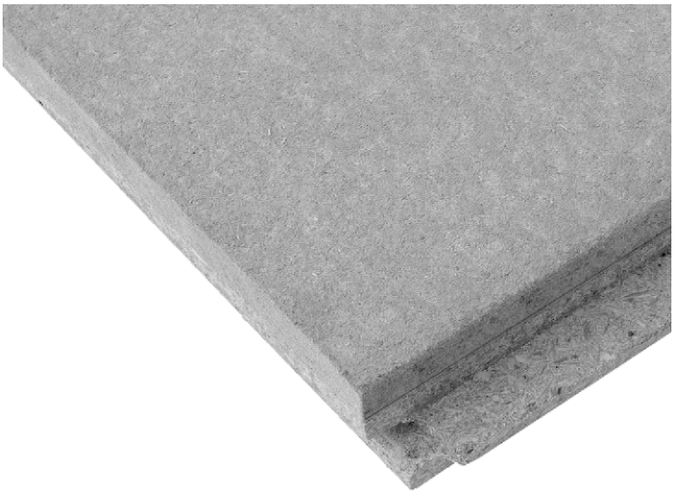
CETRIS® PDB	Tongue-and-grooved cement bonded particleboard has a smooth surface calibrated by sanding
Board format	1250 x 625 mm (including tongue), after installation 1 242 x 617 mm
Density	1150-1450 kg/m^3
Board thicknesses	16-18-20-22-24-26-28 mm (as per agreement 30-32-34-36-38 mm)
Service	Full-size double-sided sanding, milling of tongue and groove edges



The CETRIS® PDB are calibrated by sanding to a thickness tolerance of ±0.3 mm and are intended for use on floors by attachment to beams, or for renovation of old wooden floors mainly under thin floorings.

1.3.4 CETRIS® PDI

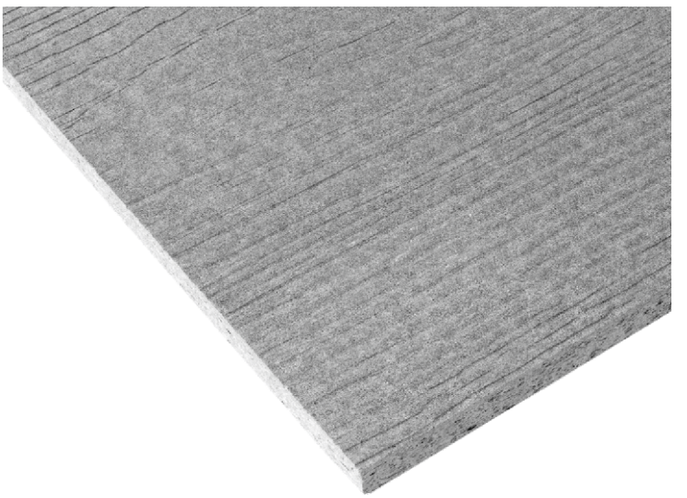
CETRIS® PDI	Two-ply panel consisting of a CETRIS® cement bonded particleboard of thickness 20 mm or 22 mm glued together with a fibreboard insulation of thickness 12 mm. The surface is smooth with milled tongue and groove around the perimeter
Board format	1 220 x 610 mm (including tongue), after installation 1 203 x 593 mm
Panel thickness:	32, 34 mm
Area weight:	approx. 30,4/ 33,5 kg/m^2
Service	Milling of tongue and groove on the edges



The CETRIS® PDI boards are designed for use of dry technology and laying on a flat surface (ceiling structure, decking). More detailed information about use of the floor panels is available in chapter 6.5.

1.3.5 CETRIS® PROFIL

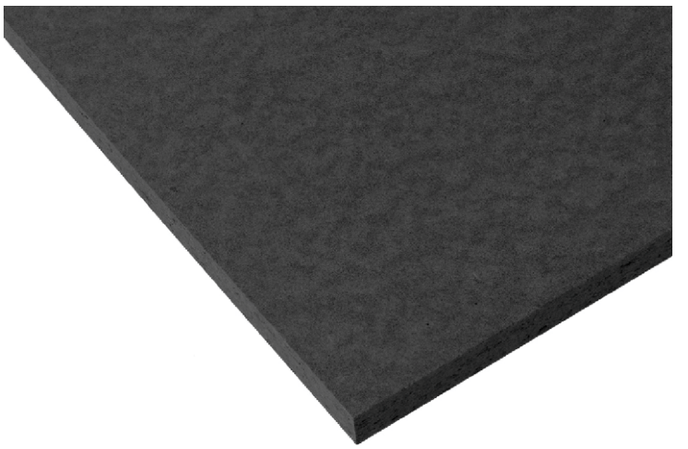
CETRIS® PROFIL	Cement bonded particleboard with relief imitating wood or slate structure with a natural grey cement surface
Board format	3350 x 1250 mm
Density	1150-1450 kg/m^3
Board thicknesses	10 - 12 mm
Relief type	Wood, Slate
Service	According to the requirements of the customer – cutting, drilling, milling.



CETRIS® PROFIL boards can be supplied with service - cutting according to the dimensions required by the customer, milling from a board thickness of 12 mm with semi-groove. Pre-drilled holes may be made in the boards on request. CETRIS® PROFIL boards are mainly used as exterior and interior façade cladding for their decorative appearance.

1.3.6 CETRIS® INCOL NEW

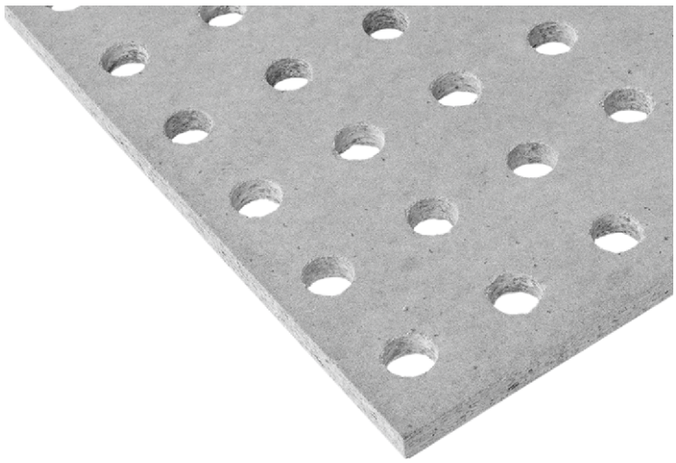
CETRIS® INCOL	Cement-bonded particleboard with smooth surface primed through with black pigment
Board format	3350 x 1250 mm
Density	1150-1450 kg/m^3
Board thickness	12 mm
Service	According to the requirements of the customer – cutting, drilling, edge chamfering, milling...



CETRIS® INCOL boards can be supplied with service - cutting according to the dimensions required by the customer, rounded edge or chamfered edge to 45°, milled with semi-groove. Pre-drilled holes may be made in the boards on request. CETRIS® INCOL boards are mainly used as exterior and interior cladding.

1.3.7 CETRIS® AKUSTIC

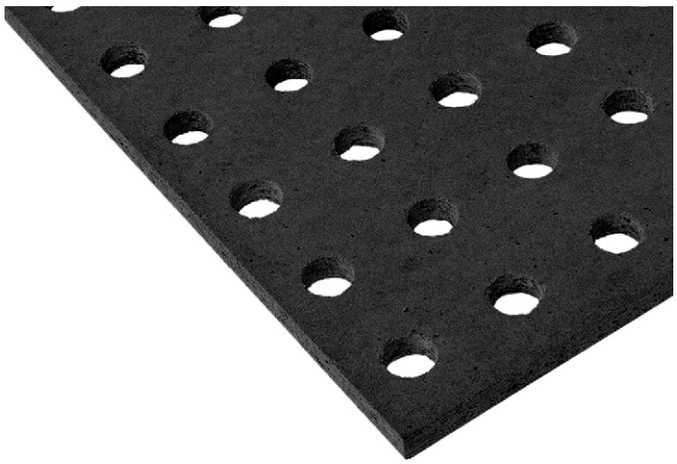
CETRIS® AKUSTIC	Cement bonded particleboard with pre-drilled / milled holes and smooth cement surface
Board format	1250 x 625 mm
Density	1150-1450 kg/m^3
Board thicknesses	8 - 10 mm (as per agreement 12 - 14 mm)
Area weight	8 mm – 10 kg/m^2, 10 mm – 12,5 kg/m^2
Service	Drilled holes of diameter 12 mm, spacing 32 mm + new board milling (drilling) designs.



CETRIS® AKUSTIC boards are used as part of noise-absorbing acoustic insulation structures in connection with load-bearing structures, mineral wool and acoustic textile. By use of these boards, we get not only an aesthetically interesting, but also functional cladding that improves spatial acoustics. Details in chapter 9.3.

1.3.8 CETRIS® AKUSTIC INCOL NEW

CETRIS® AKUSTIC INCOL	Cement bonded particleboard with smooth surface primed through with black pigment with drilled / milled holes
Board format	1250 x 625 mm
Density	1150-1450 kg/m^3
Board thicknesses	12 mm
Area weight	8 mm – 10 kg/m^2, 10 mm – 12,5 kg/m^2
Service	Drilled holes of diameter 12 mm, spacing 32 mm + new board milling (drilling) designs.



CETRIS® AKUSTIC INCOL boards are used as part of noise-absorbing acoustic insulation structures in connection with load-bearing structures, mineral wool and acoustic textile. By use of these boards, we get not only an aesthetically interesting, but also functional cladding that improves spatial acoustics. Details in chapter 9.3.

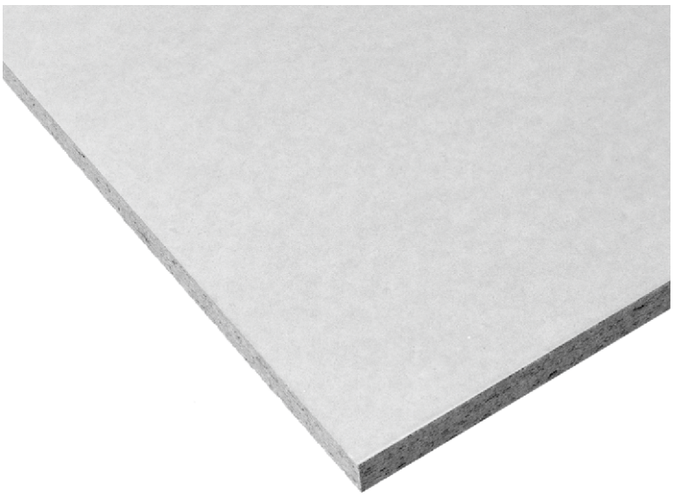
1.3.9 CETRIS® HOBBY FLOWERBED CURB

CETRIS® HOBBY FLOWERBED CURB	
Board format	1250 x 250 x 28 mm
Weight (1 pc)	12.25 kg

CETRIS® HOBBY FLOWERBED CURB is a CETRIS® cement bonded particleboard of rectangular format and a thickness of 28 mm with a size of 1250 x 250 mm, cut from CETRIS® BASIC board. The top edge is chamfered on both sides, the side edges are milled to allow (tongue+groove) joining. The boards may be cut, drilled or milled. The boards may be set in concrete, or directly in a furrow and filled with soil.

1.3.10 CETRIS® PLUS

CETRIS® PLUS	Cement bonded particleboard with a smooth surface treated with primer coat on both sides including the edges
Board format	According to the customer's requirements max. 3350 x 1250 mm
Density	1150-1450 kg/m^3
Board thicknesses	8-10-12-14-16-18-20-22-24-26-28-30-32 mm
Service	According to the requirements of the customer – cutting, drilling, phasing, milling...
Surface treatment	White base coat



The provided services are identical with those provided for CETRIS® BASIC boards. The base coat improves the adhesion of the final paint on the board, reduces the porosity of the board and consumption of final coating material. The CETRIS® PLUS boards are mainly suitable for use in interiors as a base under a contact heat insulation system. The underside has lower coverage and an irregular structure.

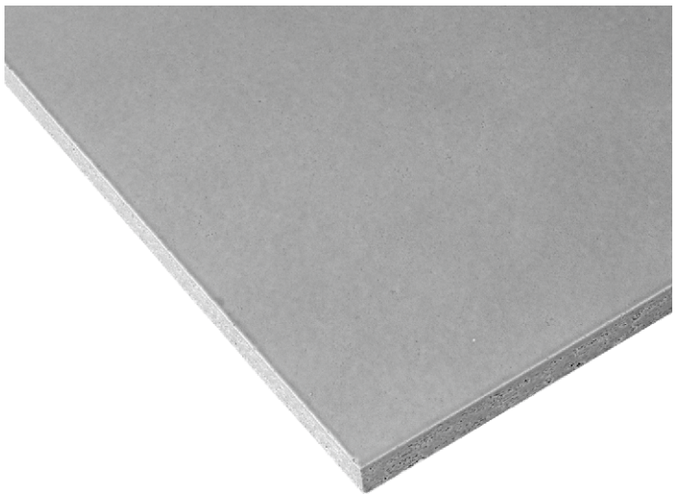
1.3.11 CETRIS® PROFIL PLUS

CETRIS® PROFIL PLUS	Cement bonded particleboard with relief surface imitating wood or slate structure with white primer on both sides including the edges.
Board format	According to the customer's requirements, max. 3350 x 1250 mm
Density	1150-1450 kg/m^3
Board thicknesses	10 - 12 mm
Relief type	Wood, Slate
Service	According to the requirements of the customer – cutting, milling.
Surface treatment	White base coat

The provided services are identical with those provided for CETRIS® BASIC boards. The base coat improves the adhesion of the final paint on the board, reduces the porosity of the board and consumption of final coating material. The CETRIS® PROFIL PLUS boards are mainly suitable for use in interiors. The underside has lower coverage and an irregular structure.

1.3.12 CETRIS® FINISH

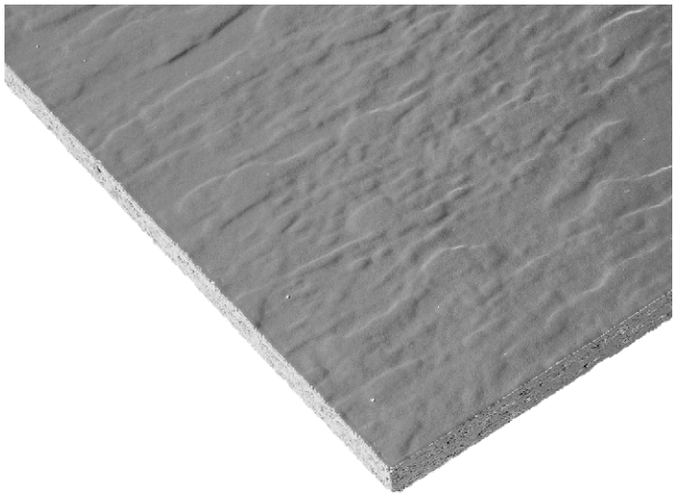
CETRIS® FINISH	Cement bonded particleboard with smooth surface provided with a primer and a final top coat in shades according to the customer's requirements
Board format	According to the customer's requirements, max. 3350 x 1250 mm
Density	1150-1450 kg/m^3
Board thicknesses	10-12-14-16 mm
Service	According to requirements – cutting, drilling, chamfering of edges
Surface treatment	Pigment primer coat, top coat
Colour shades	According to the RAL, NCS swatches – suitability of the colour shade must be consulted with the manufacturer



The CETRIS® FINISH boards are used mainly as surface cladding boards in exteriors and interiors. The backside of the CETRIS® FINISH boards is provided with a protective primer coat without regular structure, appearance, specific colour shade and adequate covering power. The requirement for the design of the backside in white or transparent shade must be specified in the order in advance.

1.3.13 CETRIS® PROFIL FINISH

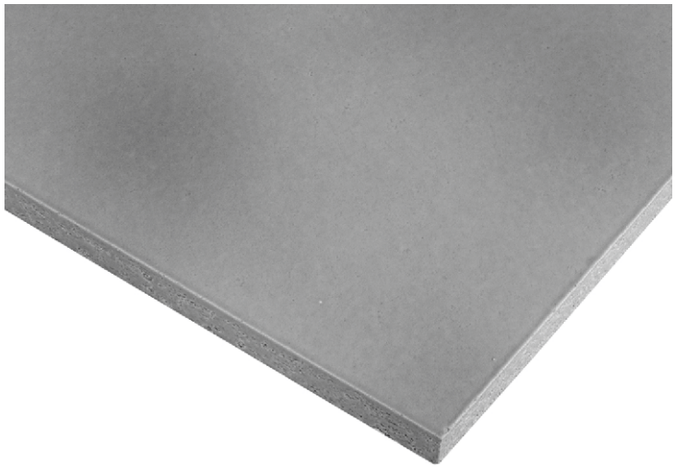
CETRIS® PROFIL FINISH	Cement bonded particleboard with relief imitating wood or slate structure, with a primer and top coat according to the customer's colour shade requirement
Board format	According to the customer's requirements, max 3350 x 1250 mm
Density	1150-1450 kg/m^3
Board thicknesses	10 - 12 mm
Relief type	Wood, Slate
Service	According to the requirements of the customer – cutting, drilling of holes
Surface treatment	Pigment primer coat, top coat
Colour shades	According to the RAL, NCS swatches – suitability of the colour shade must be consulted with the manufacturer



CETRIS® PROFIL FINISH boards are mainly used as exterior and interior façade cladding for their decorative appearance. The backside of the boards is provided with a protective primer coat without regular structure, appearance, specific colour shade and adequate covering power. The requirement for the design of the backside in white or transparent shade must be specified in the order in advance.

1.3.14 CETRIS® LASUR

CETRIS® LASUR	Cement bonded particleboard with smooth surface provided with a primer coat and a glaze top coat in shades according to the customer's requirements
Board format	According to the customer's requirements, max. 3350 x 1250 mm
Density	1150-1450 kg/m^3
Board thicknesses	10-12-14-16 mm
Service	According to the requirements of the customer – cutting, drilling of holes, chamfering of edges
Surface treatment	Pigment primer coat, top glaze coat
Shades	According to the CETRIS® LASUR board sampler



The CETRIS® LASUR boards are used mainly as surface cladding boards in exteriors and interiors. The backside of the CETRIS® LASUR boards is provided with a protective primer coat without regular structure, appearance, specific colour shade and adequate covering power.

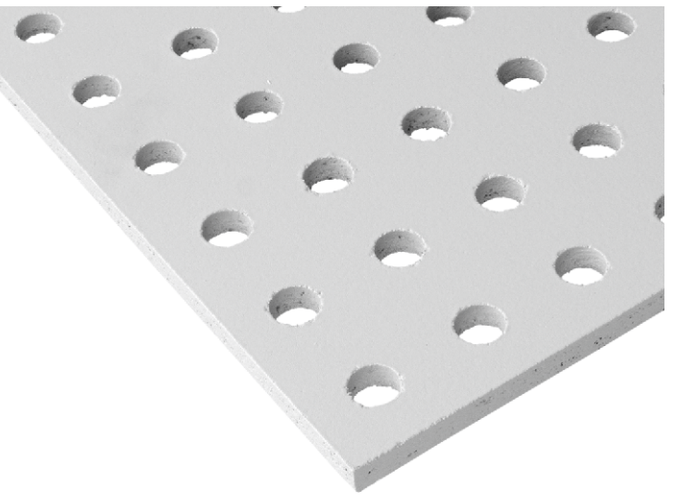
1.3.15 CETRIS® PROFIL LASUR

CETRIS® PROFIL LASUR	Cement bonded particleboard with relief imitating wood or slate structure, with a primer and final glaze top coat made according to the customer's requirement
Board format	According to the customer's requirements, max. 3350 x 1250 mm
Density	1150-1450 kg/m^3
Board thicknesses	10-12 mm
Relief type	Wood, Slate
Service	According to the requirements of the customer – cutting, drilling of holes
Surface treatment	Primer pigment coat, top glaze coat
Shades	According to the CETRIS® LASUR board sampler

CETRIS® PROFIL LASUR boards are mainly used as exterior and interior façade cladding for their decorative appearance. The backrside of the CETRIS® PROFIL LASUR boards is provided with a protective primer coat without regular structure, appearance, specific colour shade and adequate covering power.

1.3.16 CETRIS® AKUSTIC FINISH NEW

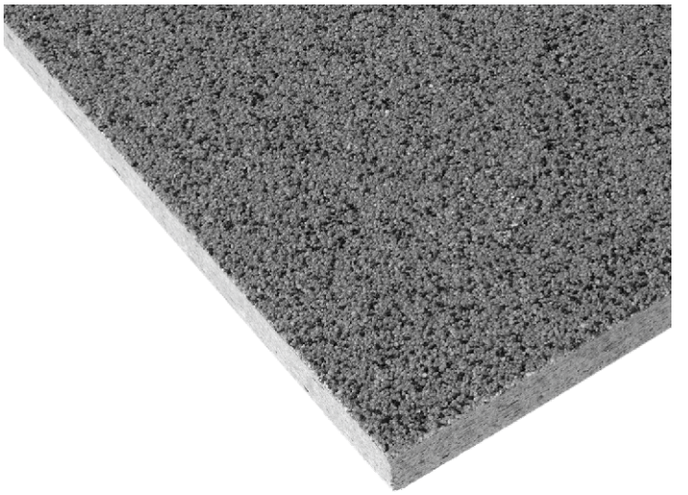
CETRIS® AKUSTIC FINISH	Cement bonded particleboard with regular pre-drilled holes with primer coat and final top coat
Board format	1250 x 625 mm
Density	8 mm – 10 kg/m^2, 10 mm – 12,5 kg/m^2
Board thicknesses	8 - 10 mm (as per agreement 12 - 14 mm)
Relief type	smooth
Service	Drilled holes – diameter 12 mm, hole spacing 32 mm + new board drilling (milling) design
Surface treatment	Pigment primer coat, top coat
Colour shades	According to RAL, NCS - consult with the manufacturer



CETRIS® AKUSTIC FINISH boards are used as part of noise-absorbing acoustic insulation structures in connection with load-bearing structures, mineral wool and acoustic textile. By use of these boards, we get not only an aesthetically interesting, but also functional cladding that improves spatial acoustics. The backside of the CETRIS® AKUSTIC FINISH boards is provided with a protective primer with irregular structure, raw appearance and insufficient coverage. Details in chapter 9.3

1.3.17 CETRIS® DEKOR

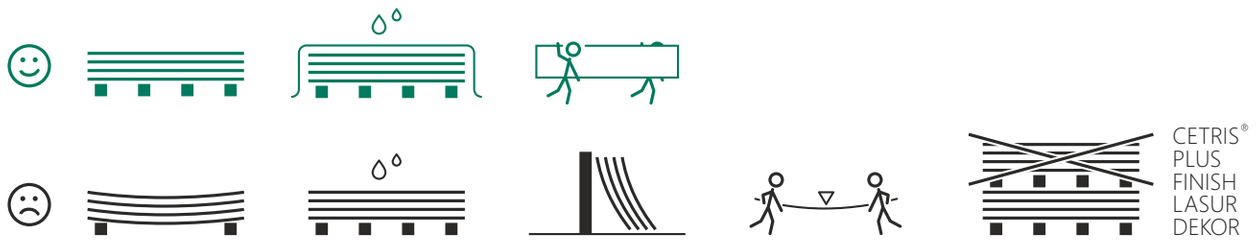
CETRIS® DEKOR	Cement bonded particleboard with base coat and decorative mosaic plaster
Board format	1250 x 625 mm
Area weight	12 mm – cca 20 kg/m^2, 14 mm – cca 23 kg/m^2
Board thicknesses	12, 14 mm
Surface treatment	Pigment primer coat, decorative mosaic plaster
Colour shades	According to the CETRIS® DEKOR board sampler



The CETRIS® DEKOR boards are used mainly as cladding boards in exteriors and interiors. The backside of the CETRIS® DEKOR boards is provided with a protective primer without regular structure, appearance, specific colour shade and adequate covering power.

1.4 Packaging, Storage, Handling

The CETRIS® cement bonded particleboard are stored on wooden transport pallets which allow handling with a forklift. The boards are fixed with straps cross-wise. Longitudinally, fixing is only upon customer request. CETRIS® boards are protected against weather using PE foil. However, packaging of CETRIS® boards in PE foil does not fulfil the conditions for long-term exposure to the effects of weather during storage in an open space. During storage, the top board may bend due to quicker drying of the upper surface. This phenomenon is eliminated by turning the board over. The CETRIS® boards should be stored in roofed dry space to ensure that they do not become moist before instatlation. During storage, it is possible to stack CETRIS® without surface treatment in layers on the same size up to a maximum height of 4 m. The pallets CETRIS® boards on which surface finish are stored cannot be stacked (PLUS, FINISH, LASUR, DEKOR). When handling, the CETRIS® boards should be placed on pallets During storage, the boards are handled in vertical position. Manual transfer is also done in vertical position.



Board thick-ness (mm)	Approx. weight (kg/m²)	Approx. weight of the board (kg)	Number of boards on pallet (pieces)	Area of boards on pallet (m²)	Total approximate weight of the boards including pal. (kg)
CETRIS® BASIC, PROFIL, INCOL cement bonded particleboards in basic format (1,250x3,350 mm)					
8	11,4	47,6	60	254,25	2 894
10	14,2	59,5	45	188,44	2 716
12	17,0	71,4	40	167,50	2 894
14	19,9	83,3	35	146,56	2 954
16	22,7	95,1	30	125,63	2 894
18	25,6	107,0	25	104,69	2 716
20	28,4	118,9	25	104,69	2 013
22	31,5	130,8	20	83,75	2 656
24	34,3	142,7	20	83,75	2 894
26	36,9	154,6	20	83,75	2 132
28	39,8	166,5	15	62,81	2 537
30	42,6	178,4	15	62,81	2 716
32	45,4	190,3	15	62,81	2 894
34	48,3	202,2	15	62,81	2 073
36	51,1	214,1	10	41,88	2 181
38	54,0	226,0	10	41,88	2 300
40	56,8	237,9	10	41,88	2 419

Board thick-ness (mm)	Approx. weight (kg/m²)	Approx. weight of the board (kg)	Number of boards on pallet (pieces)	Area of boards on pallet (m²)	Total approximate weight of the boards including the pallet (kg)
CETRIS® PD, CETRIS® PDB floor boards (dimensions 1,250 x 625 mm)					
16	22,7	17,8	50	39,0	895
18	25,6	20,0	45	35,1	906
20	28,4	22,2	40	31,2	895
22	31,5	24,6	35	27,3	868
24	34,3	26,8	35	27,3	946
26	36,9	28,8	30	23,4	865
28	39,8	31,1	30	23,4	932
CETRIS® BASIC for the POLYCET, IZOCET floor systems (1,250 x 625 mm)					
12 horní	17,0	13,3	70	54,7	950
12 dolní	17,0	13,3	70	54,7	950
CETRIS® AKUSTIC (1250x625 mm) cement bonded particleboards					
8	10,0	7,8	100	78,13	810
10	12,5	9,75	80	62,5	805
Insulating fibreboards for the IZOCET floor system (1,200 x 810 mm)					
19	5,0	5,0	150	145,8	745
CETRIS® PDI (1220x610 mm) floor panel					
34	33,5	24	30	22,32	750
32	30,4	24	30	22,32	700

1.5 Parameters of the Dispatched Boards

1.5.1 Dimensional tolerances

Note: The given tolerances are defined according to ČSN EN 634-1.

Parameter	Board thickness	Requirement
Thickness of a unsanded board	8,10 mm	±0,7 mm
	12,14 mm	±1,0 mm
	16,18 mm	±1,2 mm
	20 – 40 mm	±1,5 mm
Thickness of a sanded board	8 - 38 mm	±0,3 mm
Basic format length and width	8 – 40 mm	±5,0 mm
Sizing precision for length and width	8 – 40 mm	±3,0 mm
Edge straightness tolerance	8 – 40 mm	1,5 mm/m
Rectangularity tolerance	8 – 40 mm	2,0 mm/m

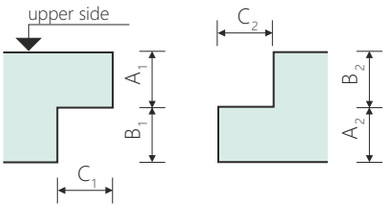
Parameter	1st Class Quality	Lower quality class
Deviation from the right angle	Max. 2 mm / 1 m of length	Max. 4 mm / 1 m of length
Permissible edge damage	Max. to a depth of 3 mm	Max. to a depth of 30 mm
Plane projections	Max. 1 mm, size 10 mm	Max. 2 mm
Depressions	Max. 1 mm, size 10 mm	Max. 2 mm
Miscellaneous		Corrugated surface up to 30 mm, longitudinal wave >30 mm and transverse wave >20 mm, thin edges, pressed cement, peel in the surface, edges peeled, surfaces damaged by the pallets, edges damaged by the disc and cut-out saws.

1.5.2 Services

Deviations in milling, chamfering, creation of tongues and grooves are determined in such a manner that functional correctness is maintained during assembly.

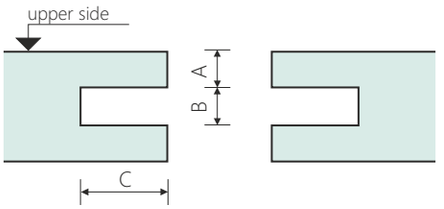
Semi-groove

Dimensions	Deviation	Dimensions	Deviation
A1	–1/0	A2	-1/0
B1	0/+1,5	B2	0/+1,5
C1	0/+2	C2	-2/0



Groove

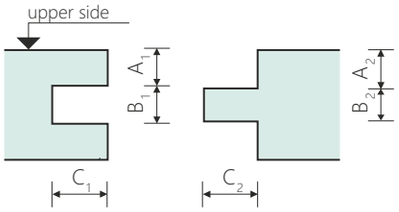
Dimensions	Deviation
A	–0,5/+0,5
B	0/+1,5
C	0/+2



Tongue and groove

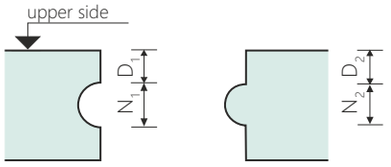
d (mm)	16	18	20	22	24	26	28
A_1 (mm)	5,0	6,0	7,0	8,0	8,0	9,0	10,0
A_2 (mm)	5,25	6,25	7,25	8,25	8,5	9,5	10,5
B_1 (mm)	6,0				8,0		
B_2 (mm)	5,5				7,0		
C_1 (mm)	10,0						
C_2 (mm)	8,5						

Dimensions	Deviation	Dimensions	Deviation
A_1	±0,5 mm	A_2	±0,5 mm
B_1	0/+0,5	B_2	-0,5/0
C_1	0/+2	C_2	-2/0



Half-round tongue and groove

Dimensions	Deviation	Dimensions	Deviation
D1	±0,5 mm	D2	±0,5 mm
N1	0/+0,5	N2	-0,5/0

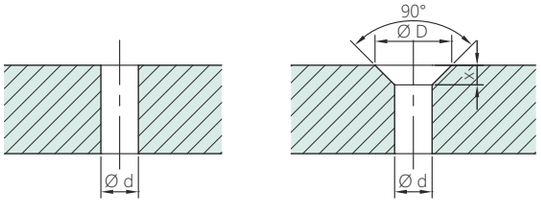


Chamfered and rounded edges

Deviation
Machining accuracy ± 1.0 mm

Drilling

Type of drilling	Hole diameter		Depth x (mm)	Board thickness (mm)
	inner d (mm)	outer D (mm)		
Without recessing	(4,5 - 8,0) ± 0,5	- - -	- - -	8 - 40
Without recessing	(10,0 – 12,0) ± 1,0	- - -	- - -	8 - 40
With recessing	4,5 ± 0,5	9,5± 1,0	2,5± 0,5	12 - 40
With recessing	5,5 ± 0,5	1,0 ± 1,0	2,5± 0,5	12 - 40
With recessing	6,5 ± 0,5	17,0 ± 1,5	5,0 ± 1,0	12 - 40



Deviation of the distance of the individual holes in the board is not more than ± 5 mm.

Surface Treatment

Guarantee on colour stability (according to the manufacturer of the coats) is at least 3 years. Colour shades of CETRIS® FINISH, PROFIL FINISH and AKUSTIC FINISH boards can be chosen according to the RAL or NCS colour sampler. Colour shades of the CETRIS® LASUR and CETRIS® PROFIL LASUR boards can be chosen according to the CETRIS®LASUR colour sampler. We recommend that you consult the suitability of the chosen colour shade with us. The backside of the CETRIS® FINISH, PROFIL FINISH, LASUR, PROFIL LASUR, AKUSTIC FINISH and DEKOR is provided with a protective primer with irregular structure, raw appearance and insufficient coverage.

The backside coat is provided in an unspecified colour shade, the requirement for white or transparent shade must be specified in the order in advance. The backside surface of the boards may be slightly disrupted by handling related to the manufacturing of the CETRIS® boards. If a sample with the required colour shade is made upon customer request, this sample shall only serve as orientation information about the chosen colour shade and coverage level (difference in the manual application of the coat on the sample and machine application during series production).