

CETRIS® ECO PDB

Calibrated cement bonded particleboard with recycled content, tongue and groove

CETRIS® ECO PDB is a cement bonded particleboard calibrated by sanding, fitted with tongue and groove and with a smooth surface. It is made by pressing a mixture of wood chips (21 wt %), Portland cement (63 wt %), processed waste from cement bonded particleboard production (4 wt %), water (10 wt %) and hydration additives (2 wt %), followed by cutting and milling. Calibration reduces the thickness tolerance to ± 0.3 mm. The boards are made in the standard size 1,250 × 625 mm, in thicknesses of 26, 28, 30, 32, 34 and 36 mm, and have a tongue and groove all round.

They are intended primarily for dry floor systems, i.e. for laying on joists or for the renovation of old floors. They are at the same time an ideal substrate for loose-laid thin floor coverings.

Cement bonded particleboards are intended primarily as a construction material where moisture resistance, strength and environmental and hygienic safety are required at the same time. CETRIS® boards contain neither asbestos nor formaldehyde and are resistant to insects and mould. They are sound-insulating.

Technical specification

Basic size	1,250 × 625 mm (including the tongue)
Board thicknesses	26-28-30-32-34-36 mm
Density	1,150–1,500 kg/m ³
Machining to customer requirements	to customer requirements, edges milled with tongue and groove
Thickness tolerance	± 0.3 mm
Surface treatment	without surface treatment

Basic physical and mechanical properties

Property	Standard limit values	Measured mean values
Density according to ČSN EN 323	min. 1,000 kg/m ³	1,350–1,500 kg/m ³
Bending tensile strength according to ČSN EN 310	min. 9.0 N/mm ²	min. 11.5 N/mm ²
Modulus of elasticity according to ČSN EN 310	min. 4,500 N/mm ²	min. 6,800 N/mm ²
Tensile strength perpendicular to the board plane according to ČSN EN 319	min. 0.5 N/mm ²	min. 0.63 N/mm ²
Internal bond after cycling in humid conditions according to ČSN EN 321	min. 0.3 N/mm ²	min. 0.41 N/mm ²
Reaction to fire according to EN 13501-1		B-s1,d0
Surface flame spread index according to ČSN 73 0863		i = 0 mm/min
Thickness swelling after 24 hours of water immersion	max. 1.5 %	max. 0.28 %
Thickness swelling after cycling in humid conditions according to ČSN EN 321	max. 1.5 %	max. 0.31 %
Linear expansion at a moisture change from 35 % to 85 % at 23 °C according to ČSN EN 13009		max. 0.122 %
Water absorption after 24 hours of water immersion		max. 16 %
Coefficient of thermal expansion according to ČSN EN 13471		$10 \times 10^{-6} \text{ K}^{-1}$
Thermal conductivity according to ČSN EN 12664, thickness 8–40 mm		0.200–0.287 W/mK

Property	Standard limit values	Measured mean values
Airborne sound insulation according to ČSN 73 0513, thickness 8–40 mm		30 dB – 35 dB
Vapour diffusion resistance according to ČSN EN ISO 12572, thickness 8–40 mm		52.8 – 69.2
pH of the board material		12.5
Specific activity of Ra 226	150 Bq/kg	22 Bq/kg
Activity index	I = 0.5	I = 0.21
Resistance to high-voltage, low-current arc discharge according to EN 61621		thickness 10 mm, min. 143 s
Coefficient of sliding friction according to ČSN 74 4507		static $\mu_s = 0.73$ dynamic $\mu_d = 0.76$
Equilibrium moisture content at 20 °C and 50 % relative humidity according to EN 634-1	9 ± 3 %	9.50 %

Dimensional tolerances

Property	Board thickness	Requirement
Board thickness	26–36 mm	±0.3 mm
Length and width, basic size	26–36 mm	±5.0 mm
Cutting accuracy in length and width	26–36 mm	±3.0 mm
Edge straightness tolerance	26–36 mm	1.5 mm/m
Squareness tolerance	26–36 mm	2.0 mm/m

Appearance

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

Tongue and groove dimensions

d1	26	28	30	32	34	36
d2	9	10	11	11	12	13
d3	9.5	10.5	11.5	11.5	12.5	13.5
n1	8	8	8	10	10	10
n2	7	7	7	9	9	9
h1	10	10	10	10	10	10
h2	8.5	8.5	8.5	8.5	8.5	8.5

Tolerances: d2 ± 0.5, d3 ± 0.5, n1 0 / +0.5, n2 -0.5 / 0, h1 0 / +2, h2 -2 / 0. Board size without the tongue – 617 × 1,242 mm.

The ČSN designations refer to the Czech national editions of the respective European standards and have been kept as in the manufacturer's original. Where a harmonised EN standard exists, its Swedish edition is SS-EN with the same number.