Technical data sheet

CETRIS® PROFIL

Cement bonded particleboard with a relief imitating wood or slate

CETRIS® PROFIL is a cement bonded particleboard made in a thickness of 10 or 12 mm, the surface of which is a relief imitating the structure of wood or slate. It is made by pressing a mixture of wood chips (19 wt %), Portland cement (69 wt %), water (10 wt %) and hydration additives (2 wt %). The basic board size is 3,350 × 1,250 mm.

The boards can be supplied cut to the size required by the customer, with a rounded or 45° chamfered edge and, in the 12 mm thickness, milled with a half-lap. Thanks to their decorative appearance, CETRIS® PROFIL boards are used above all as facade cladding boards, both outdoors and indoors.

Cement bonded particleboards are intended primarily as a construction material where moisture resistance, strength, incombustibility 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 non-combustible and sound-insulating. The boards can be worked with ordinary woodworking tools.

About the surface appearance. When using CETRIS® PROFIL, the composition and origin of the board must be taken into account – it is a cement product. Free lime particles in the Portland cement can migrate to the board surface, and on contact with air carbonation may occur, leaving efflorescence that disturbs the uniform appearance of the surface. The colour of the board surface is not uniform, and complaints on grounds of appearance therefore cannot be accepted.

Technical specification

Basic size	3,350 × 1,250 mm
Board thicknesses	10 – 12 mm
Density	1,150–1,500 kg/m^3
Machining to customer requirements	cutting, drilling of holes, edge chamfering and edge milling
Surface	relief – wood, slate
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		A2-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 %

Property	Standard limit values	Measured mean values
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		10×10^{-6} K^{-1}
Thermal conductivity according to ČSN EN 12664, thickness 8–40 mm		0.200–0.287 W/mK
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
Frost resistance after 100 cycles according to ČSN EN 1328	$R_L > 0.7$	$R_L = 0.97$
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 of the board surface to water and chemical de-icing agents according to ČSN 73 1326	Scaling after 100 cycles max. 800 g/m² (method A) Scaling after 75 cycles max. 800 g/m² (method C)	Scaling after 100 cycles max. 20.4 g/m² (method A) Scaling after 100 cycles max. 47.8 g/m² (method C)
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
Thickness, unsanded board	10 mm	±0.7 mm
	12 mm	±1.0 mm
Length and width, basic size		±5.0 mm
Cutting accuracy in length and width		±3.0 mm
Edge straightness tolerance		1.5 mm/m
Squareness tolerance		2.0 mm/m

Appearance

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