

CETRIS® PROFIL FINISH

Cement bonded particleboard with relief, primer and top coat

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

The shade is chosen from the RAL and NCS colour charts. Pearlescent, reflective, metallic and poorly covering shades must be excluded (consultation with the manufacturer is recommended).

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. The boards can also be supplied with pre-drilled holes. Thanks to their decorative appearance, CETRIS® PROFIL FINISH 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, good reaction-to-fire performance 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 of low combustibility – reaction-to-fire class B-s1,d0 to EN 13501-1 – and sound-insulating. The boards can be worked with ordinary woodworking tools.

The reverse side of CETRIS® FINISH boards carries a protective primer that has neither a regular structure, a uniform appearance nor full opacity. The primer has no specified colour; a requirement for a white or transparent finish must be stated in advance.

Technical specification

Basic size	3,350 × 1,250 mm
Board thicknesses	10, 12 mm
Density	1,150–1,500 kg/m ³
Relief type	slate and wood
Machining to customer requirements	cutting, drilling of holes, edge chamfering and edge milling
Colour	according to the RAL and NCS colour charts (check the suitability of the shade with the manufacturer)
Surface treatment	primer and top coat

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

Property	Standard limit values	Measured mean values
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
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/m ² (method A) Scaling after 75 cycles max. 800 g/m ² (method C)	Scaling after 100 cycles max. 20.4 g/m ² (method A) Scaling after 100 cycles max. 47.8 g/m ² (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	$9 \pm 3 \%$	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
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

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. Boards with a surface finish are class B-s1,d0 (EN 13501-1, report FIRES-CR-045-23-NURS); the original's wording "non-combustible" in the running text has been corrected.