

CETRIS® AKUSTIC

Perforated cement bonded particleboard for sound-absorbing cladding

CETRIS® AKUSTIC is a cement bonded particleboard with pre-drilled holes and a smooth cement surface. It is made by pressing a mixture of wood chips (19 wt %), Portland cement (69 wt %), water (10 wt %) and hydration additives (2 wt %), followed by cutting and the drilling of regular holes. This processing achieves, in addition to the existing high mechanical values, improved acoustic properties as well.

While the solid base CETRIS® board stands out above all for its high airborne sound insulation, the perforated board acts as an absorbing acoustic cladding. Compared with other acoustic cladding materials, the CETRIS® AKUSTIC cement bonded particleboard additionally provides high resistance to mechanical penetration (by a ball, for example) and to moisture – all this while retaining a high reaction-to-fire class (A2-s1,d0).

These parameters make this board type suitable above all for sports facilities, spaces with variable temperature and humidity and buildings with specific requirements. CETRIS® boards contain neither asbestos nor formaldehyde and are resistant to insects and mould. The boards can be worked with ordinary woodworking tools.

Technical specification

Basic size	1,250 × 625 mm
Board thicknesses	8, 10 mm (by agreement 12, 14, 16, 18 mm)
Density	1,150–1,500 kg/m ³
Weight per unit area	thickness 8 mm – 10 kg/m ² , thickness 10 mm – 12.5 kg/m ²
Surface	smooth
Surface treatment	without surface treatment
Perforation	drilled holes – diameter 12 mm, hole spacing 30 – 32 mm

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
Ball impact resistance class according to EN 13964		thickness 8 mm – class 3A (speed 4 m/s) thickness 10 mm – class 2A (speed 8 m/s)
Mean sound absorption coefficient		0.61 – 0.69 (depending on the assembly)
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 %
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 %

Property	Standard limit values	Measured mean values
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
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	8 mm	±0.7 mm
	10 mm	±0.7 mm
	12 mm	±1.0 mm
	14 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
Hole spacing 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.