

CETRIS® ECO BASIC is a cement-bonded particleboard with a smooth natural cement grey surface. It is manufactured by pressing a mixture of wood chips (21% by weight), Portland cement (63% by weight), modified waste from the production of cement-bonded particleboards (4% by weight), water (10% by weight), and hydrating additives (2% by weight) and is available in standard thicknesses of 30, 32, 34, 36, 38, and 40 mm. The basic dimensions of the board are 3,350 x 1,250 mm. The boards can be cut to the dimensions required by the customer. Cement-bonded particleboards are primarily intended as a construction material in cases where moisture resistance, strength, ecological and hygienic safety are required. CETRIS® boards do not contain asbestos or formaldehyde, are resistant to insects and mould. They are sound insulating. The boards can be processed using standard woodworking tools. When using CETRIS® BASIC boards, it is necessary to respect the composition of the board and its origin – cement products. Particles of free lime contained in Portland cement may penetrate the surface of the board and carbonisation and efflorescence may occur in the air, which disrupts the uniform appearance of the board surface. The surface of the boards is not uniform in colour, therefore complaints based on appearance cannot be accepted.

**Technical specifications:**

|                                             |                      |
|---------------------------------------------|----------------------|
| basic format:                               | 3,350 x 1,250 mm     |
| Slab thicknesses:                           | 30-32-34-36-38-40 mm |
| Bulk density:                               | 1,150 - 1,500 kg/m³  |
| service: according to customer requirements | cutting              |
| surface:                                    | smooth               |
| Surface finish:                             | no surface treatment |

| Table of basic physical and mechanical properties of CETRIS® cement-bonded particleboards:     | Limit values according to the standard          | Average values – actual                          |
|------------------------------------------------------------------------------------------------|-------------------------------------------------|--------------------------------------------------|
| Volume weight according to ČSN EN 323:                                                         | min. 1,000 kg/m³                                | 1,350-1,500 kg/m³                                |
| Flexural strength according to ČSN EN 310                                                      | min. 9.0 N/mm²                                  | min. 11.5 N/mm²                                  |
| Modulus of elasticity according to ČSN EN 310                                                  | min. 4,500 N/mm²                                | min. 6,800 N/mm²                                 |
| Tensile strength perpendicular to the plane of the slab according to ČSN EN 319                | min. 0.5 N/mm²                                  | min. 0.63 N/mm²                                  |
| Splitting after cycling in a humid environment according to ČSN EN 321                         | min. 0.3 N/mm²                                  | min. 0.41 N/mm²                                  |
| Reaction to fire according to EN 13 501-1                                                      |                                                 | B-s1,d0                                          |
| Surface flame spread index according to ČSN 73 0863                                            |                                                 | i = 0 mm/min                                     |
| Thickness swelling when immersed in water for 24 hours                                         | max. 1.5%                                       | max. 0.28%                                       |
| Thickness swelling after cycling in a humid environment according to ČSN EN 321                | max. 1.5%                                       | max. 0.31%                                       |
| Linear expansion when air humidity changes from 35% to 85% at 23 °C according to ČSN EN 13 009 |                                                 | max. 0.122%                                      |
| Water absorption of the board when stored in water for 24 hours                                |                                                 | max. 16%                                         |
| Coefficient of thermal expansion according to ČSN EN 13 471                                    |                                                 | 10 × 10 <sup>-6</sup> K <sup>-1</sup>            |
| Thermal conductivity coefficient according to ČSN EN 12 664, 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                                    |
| Diffusion resistance factor according to ČSN EN ISO 12 572, thickness 8 - 40 mm                |                                                 | 52.8 - 69.2                                      |
| Frost resistance at 100 cycles according to ČSN EN 1328                                        | RL > 0.7                                        | RL = 0.97                                        |
| pH of the board                                                                                |                                                 | 12.5                                             |
| Mass activity Ra 226                                                                           | 150 Bq/kg                                       | 22 Bq/kg                                         |
| Mass activity index                                                                            | I = 0.5                                         | I = 0.21                                         |
| Surface resistance to water and chemical de-icing agents ČSN 73 1326                           | Waste after 100 cycles max. 800 g/m² (method A) | Waste after 100 cycles max. 20.4 g/m² (method A) |
|                                                                                                | Waste after 75 cycles max. 800 g/m² (method C)  | Waste after 100 cycles max. 47.8 g/m² (method C) |
| Resistance to high-voltage arc discharge according to EN 61 621                                |                                                 | thickness 10 mm, min. 143 sec                    |
| Coefficient of sliding friction ČSN 74 4507                                                    |                                                 | static μs = 0.73                                 |
|                                                                                                |                                                 | dynamic μd = 0.76                                |
| Equilibrium moisture content at 20°C and 50% relative humidity according to EN 634-1           | 9 ±3                                            | 9.50                                             |

**Dimensional tolerances:**

| Property                              | Plate thickness | Requirement |
|---------------------------------------|-----------------|-------------|
| Thickness of unground slab            | 30-40 mm        | ±1.5 mm     |
| Length and width of the basic format  | 30-40 mm        | ±5.0 mm     |
| Cutting accuracy for length and width | 30-40 mm        | ±3.0 mm     |
| Edge straightness tolerance           | 30-40 mm        | 1.5 mm/m    |
| Perpendicularity tolerance            | 30-40 mm        | 2.0 mm/m    |

**Appearance:**

| Parameter                  | I. quality class        | II. quality class        |
|----------------------------|-------------------------|--------------------------|
| Deviation from right angle | max. 2 mm/1 m length    | max. 4 mm/1 m length     |
| Permissible edge damage    | max. to a depth of 3 mm | max. to a depth of 30 mm |
| Protrusions in the surface | max. 1 mm, size 10 mm   | max. 1 mm                |
| Depressions                | max. 1 mm, size 10 mm   | max. 2 mm                |