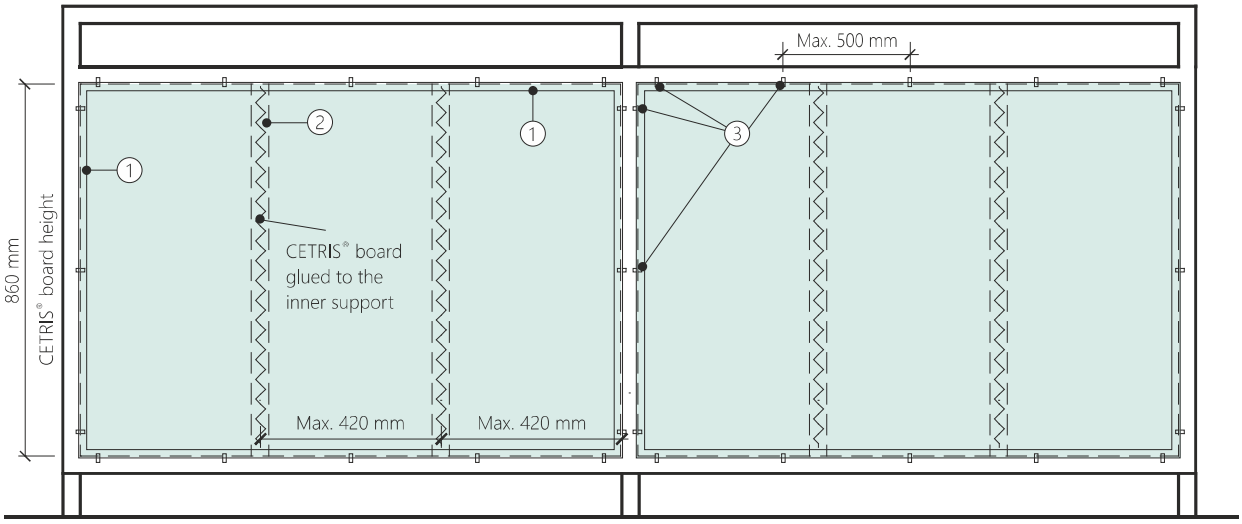
When using a CETRIS® board of thickness 10 mm, the maximum possible spacing of the inner vertical reinforcements is 420 mm. A suitable type of the peripheral lath is the F profile PROAL 74008.

1 Aluminium F-profile PROAL 74008 – for board thickness 10 mm
2 Vertical brace 40×25×4 mm
3 Rivets – joining of the F-profile with the frame



250 J All these variants have been successfully certified for higher impact energy – i.e. 250 J, they are therefore suitable for all application classes.

7.3 Suspended Ceilings - Cladding of Roof Overhangs using CETRIS® Boards

CETRIS® cement bonded particleboards are also widely used for horizontal or oblique cladding of roof construction overlaps. The conditions for anchoring of the boards and their types differ for various environments and appearances.

Board type selection

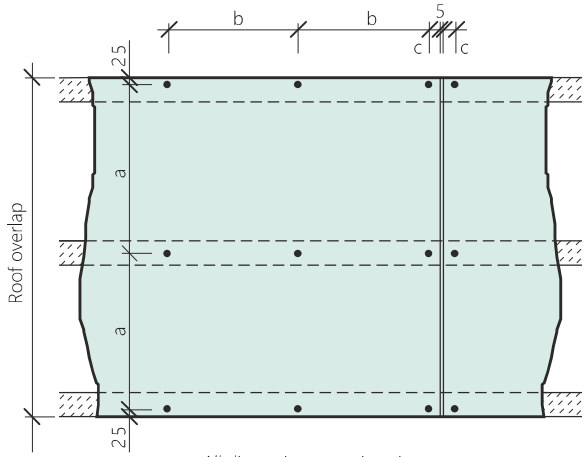
Cladding of the exterior of constructions may be done using basic CETRIS® BASIC, PROFIL, INCOL boards without surface treatment whose surfaces can be treated prior to installation, or some CETRIS® boards with surface treatment– FINISH, PROFIL FINISH, LASUR, PROFIL LASUR, DEKOR boards. The basic CETRIS® BASIC board or the CETRIS® PLUS board with acrylic primer is used for cladding constructions in the interior and exterior under the contact thermal insulation system.

Type of support

- Single-direction wooden lath grid with a minimum width of 50 mm. If the lath lies at the joint of two boards, its minimum width must be at least 80 mm, or two laths of width 50 mm must be used side by side)
- CD galvanised profiles. If the profile lies at the joint of two boards, then two profiles must be used side by side

Choice of board thickness, distance of the supports

These two parameters are mutually related, the same principles apply to the cladding and the façade system, only the maximum distance of the screws is reduced to 1/2 the support span due to the horizontal position. Due to the weight of the cladding boards, CETRIS® boards with thicknesses of 8-10-12 mm may be used.

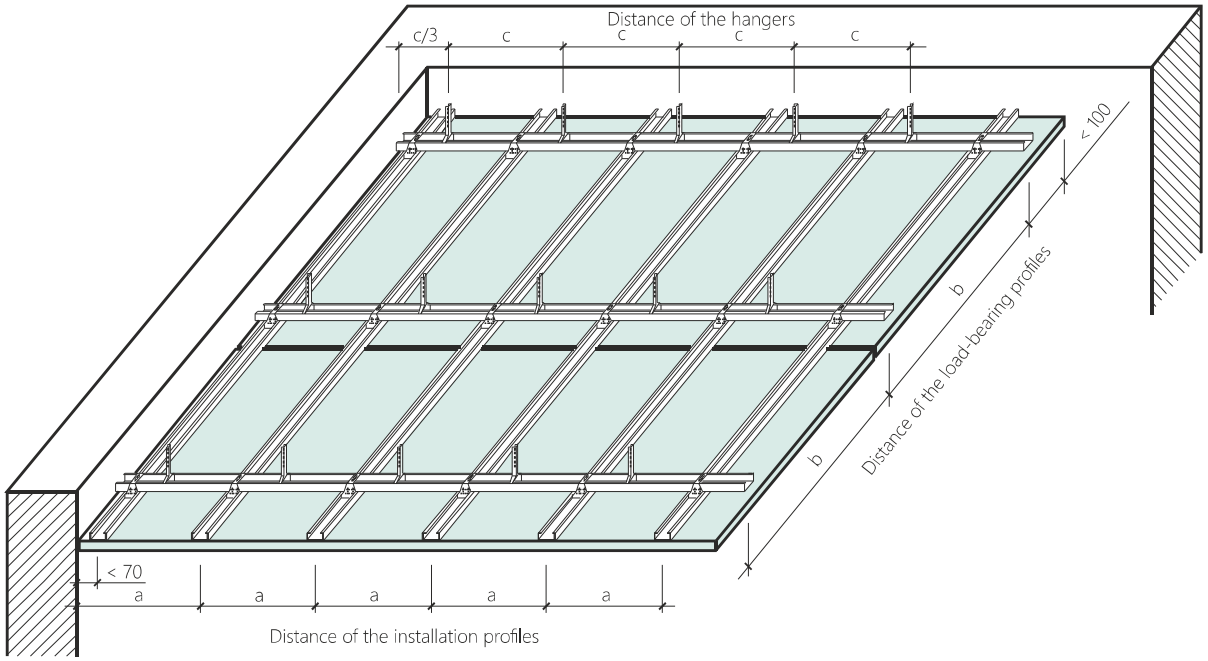


All dimensions are given in mm.

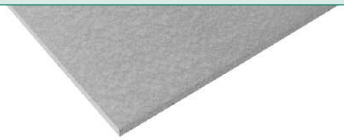
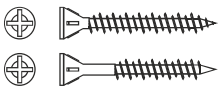
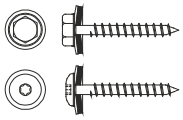
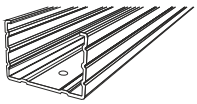
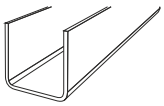
Load-bearing construction – wooden laths			
Board thickness (mm)	Support distance a (mm)	Screw distance b (mm)	Distance of screw from board edge c (mm)
8	400	200	>25 <70
10	500	250	
12	625	300	

Load-bearing construction – galvanised CD profiles					
Board thick-ness (mm)	Hanger spacing c (mm)	Distance of the load-bearing profiles b (mm)	Distance of the assembly profiles a (mm)	Screw distance (mm)	Distance of the screws from the board edge (mm)
8	420	1000	420	200	>30 <100
10			500	250	
12			625	300	

Diagram of the load-bearing construction of the ceiling for cladding with CETRIS® cement bonded particleboard (thickness 12 mm)



Materials for assembly of the suspended ceilings

Description	Visualisation	Note
CETRIS® BASIC board Cement bonded particleboard, smooth surface, cement grey. Basic format 1,250x3,350 mm Density1320±70 kgm-3		Board thicknesses 8, 10, 12 mm
Screw 4.2x25, 35, 45, 55 mm Self-tapping screws with counter-sunk heads		For anchoring of the boards in the interior or exterior under the contact thermal insulation system
Screw 4.2 – 4.8 x 38, 45, 55 mm Stainless steel or galvanised screws with half-round or hex head with thrust water-tight washer		Screw type (length) according to the thickness of the cladding. The screw is intended for anchoring the top layer of CETRIS® boards in the exterior where the board remains visible. The board must have pre-drilled holes of minimum diameter 8 (10) mm!
CW profile 75, 100 (vertical) Galvanised sheet metal profile 75x50x0.6 mm 100 x 50 x 0.6 mm		It forms a load-bearing grid for installation of the ceilings. They are fixed using a straight or Nonius hanger on the suspended floor (roof) construction.
UD profile Galvanised open sheet-metal profile of dimensions 28 × 27 × 0.6 mm, length 3.00 m.		It is used to anchor the ceiling to the walls, masonry with steel dowels
Connection for CD profile		For mechanical connection of CD profiles.
Direct hanger of thickness 1 mm, length 125 mm, load capacity 40 kg		Used to hang the metallic CD profile grid on the wooden beams of the roof ceiling constructions.
Nonius hanger of load capacity 40 kg Three-part system used for fixing the CD profile grating to the load-bearing construction of the suspended floor		It allows setting of various gap heights in the ceiling and load-bearing construction.
Cross-coupling		Used for mechanical mutual connection of crossing CD profiles lying one above the other.
Wooden lath with a cross-section of 60 × 40 mm.		It forms a wooden base construction (assembly and load-bearing profile). It is dry impregnated timber class S10 (strength class C24).

7.4 Cladding of the Building Substructure (Skirting) - Using CETRIS® Boards

The CETRIS® cement bonded particleboard is used as cladding of the hanging ventilated façade; it is also suitable for cladding of the building substructure – skirting.

Board type selection
Cladding of the skirting may be done using basic CETRIS® BASIC boards to which surface finish shall subsequently be applied or any of the CETRIS® boards with surface treatment - FINISH, FINISH PROFIL, LASUR or DEKOR boards.

Choice of board thickness, distance of the supports
These two parameters are mutually related, the same principles apply to the cladding and the façade system. The minimum recommended thickness of the CETRIS® board is 10 mm and for higher mechanical load (exposed areas – roads), we recommend a CETRIS® board of thickness 14 or 16 mm.

Type of support
Most often the CETRIS® board is anchored on an auxiliary single direction wooden lath grid (minimum width 50 mm, if the lath is positioned at the joint, of two boards - minimum width is 80 mm).

A recommended solution for anchoring of impregnated wooden elements with simultaneous levelling of the surface is the use of STEN distance screws. It is also possible to use galvanised L profiles (or J profiles) installed on anchors (brackets) – e.g. the DEKMETAL DKM1A system.

Skirting			
Board thickness (mm)	Support distance (mm)	Screw distance (mm)	Distance of the screws from the board edge (mm)
10	<500	<400	>25 <70
12	<625	<500	
14			
16			

The general principles of anchoring, solution of the joints and surface treatment of the ceilings, underlining of the roofs and skirting

Board anchoring
CETRIS® boards are anchored with visible head screws (hexagonal or semi-lens + rubber lined washer, the CETRIS® board is pre-drilled, the pre-drilled hole diameter is 8 mm (board length up to 1,600 mm) or 10 mm., all using screws of diameter 4 – 5 mm. Sunken head screws are used for anchoring of the CETRIS® boards in the interior under the contact thermal insulation system. The screw type must be adapted to the type of support (wood - galvanising), optimally with a conical head and self-tapping blades. The CETRIS® boards are pre-drilled to 1.2 multiple the diameter of the screw used.

Solution of the joints dilatation
Exterior – the joint between the individual board formats is left open in most cases and its size depends on the CETRIS® board size (up to 1,670 mm – minimum joint width of 5 mm, above 1,670 mm – minimum joint width of 10 mm).

Interior – CETRIS® boards cannot be laid flush, a minimum joint of 4 – 6 mm must be created according to the board size.
Dilatation spaces are usually in the direction of the assembly profiles with a maximum spacing of 6 m because in the opposite direction, the profiles/laths are doubled at the contact point of the two boards. The dilatation space must be ensured at the dilatation point of the CETRIS® boards. In the interior, it is necessary to let the CETRIS® boards to acclimatize in the given environment for a period of at least 48 hours.

Surface treatment
Exterior – CETRIS® boards with surface treatment (FINISH, PROFIL FINISH, LASUR, PROFIL LASUR, DEKOR) need not be processed further on site, it suffices to install them with visible joint and anchor them to the load-bearing construction: The CETRIS® BASIC or PROFIL can be coated prior to assembly.

Interior – for an appearance without joints and visible screw heads, the only solution is application of a full area plaster system.

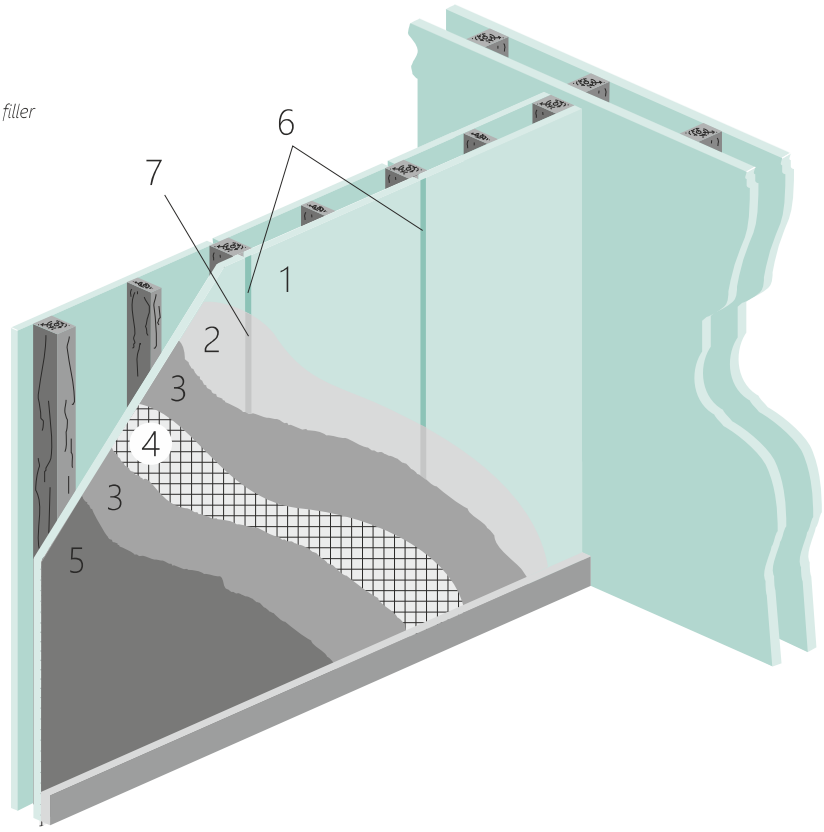
Exterior without joints – for an appearance without joints and visible screw heads, the only solution is application of a full area plaster system including full area gluing of 30 mm insulation (polystyrene, mineral wool).

Plasters in the interiors

Plastering creates a surface finish with an invisible joint.

The CETRIS® boards must first be primed, the joints must be filled with permanently elastic filler. Subsequently a trowel-on coating is applied on the full surface and the glass-fibre bandaging material is embedded in it. After the smoothing layer, the levelling plaster is re-applied and then the final finish is applied. We recommend use of the complete system of one surface finish manufacturer and observation of the technological procedures of the given manufacturer. The back side of the CETRIS® board must be treated with at least one coating layer (for instance, primer – base coat or coat with higher diffusion resistance) to prevent bending of the board during surface finishing work on the face of the board.

1 CETRIS® cement bonded particleboard
2 primer
3 filling compound
4 bandage fabric
5 plaster
6 dilatation joint
7 permanently elastic joint filler



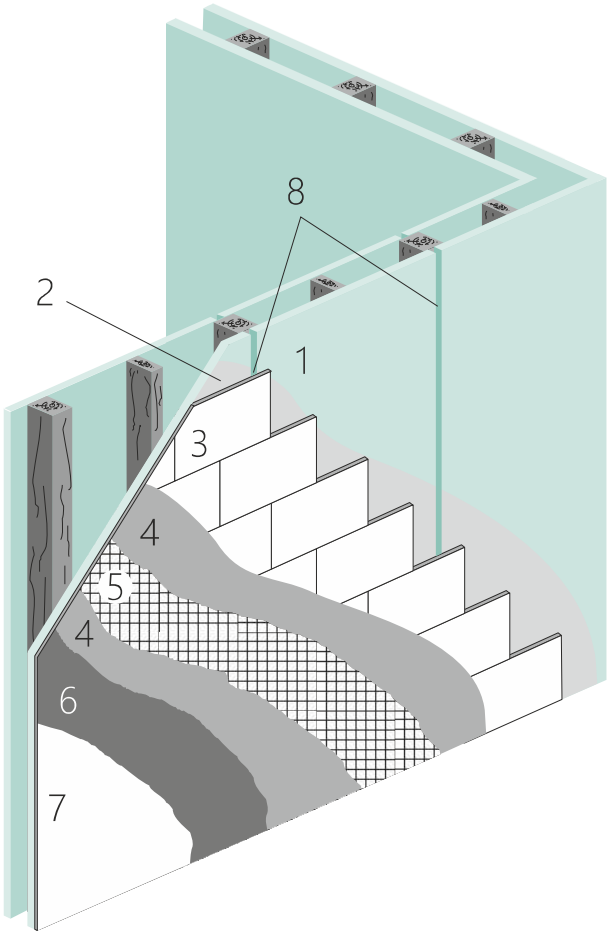
Exterior Plasters

Application of plasters is surface finishing with an invisible joint. The CETRIS® boards continuously expand and shrink as a result of humidity dilatation movements. To prevent damage of the façade plaster by hair-thin cracks caused by these movements, it is necessary to cover the CETRIS® board with an insulation board (polystyrene, mineral wool) with the minimum thickness of 30 mm or mechanicaly anchor it. When using a CETRIS® cement bonded particleboard of max. format 1,250 x 1,250 mm, an insulation board thickness of 20 mm suffices. The insulation will create a separation layer to which other layers are applied, like in the case of the contact thermal insulating systems – filling compound, bandage, noble plaster.

The CETRIS® boards must be treated with a penetration agent, the joints need not be filled in this case. Polystyrene and mineral wool are glued with cement glue or low-expansion foam to cover the joints between the CETRIS® cement bonded particleboards. Subsequently a trowel-on coating is applied on the full surface and the glass-fibre bandaging material is embedded in it. After the smoothing layer, the filling compound is re-applied and is followed by the final finish.

1 *CETRIS® cement bonded particleboard*
2 *primer*
3 *insulation board*
4 *filling compound*
5 *bandage fabric*
6 *priming*
7 *plaster*
8 *dilatation joint*

Mechanical anchoring of insulation boards to CETRIS® boards is implemented with disc dowels (self-tapping screw with disc head of high-quality polyethylene). The number of anchoring elements are specified by the manufacturers of the insulation boards, or the manufacturer of the discs shall be minimum 4 pieces/m^2.



Recommended products:
EJOT SBH-T 65/25, screw diameter 4.8 mm, anchoring length 20 – 40 mm. Used in combination with the self-tapping screws EJOT® Climadur-Dabo SW 8 R.