

Attic insulation with Styrodur® 3000 CS

According to Germany's Building Energy Act (Gebäudeenergiegesetz, GEG) 2020, homeowners must install thermal insulation in non-insulated attics that are located above heated rooms. And the thermal transmission coefficient (U-value) must not exceed $0.24 \text{ W}/(\text{m}^2\cdot\text{K})$. For newbuildings, the requirements are even more stringent.

Why Styrodur® 3000 CS?

- Pressure-resistant even without pressure-distributing wood-based panel
- Smooth surface with shiplap
- Up to 240 mm for multi-layer installation
- Ideal for attics that are only occasionally walked on and used as a storage room
- Multi-layer installation also possible

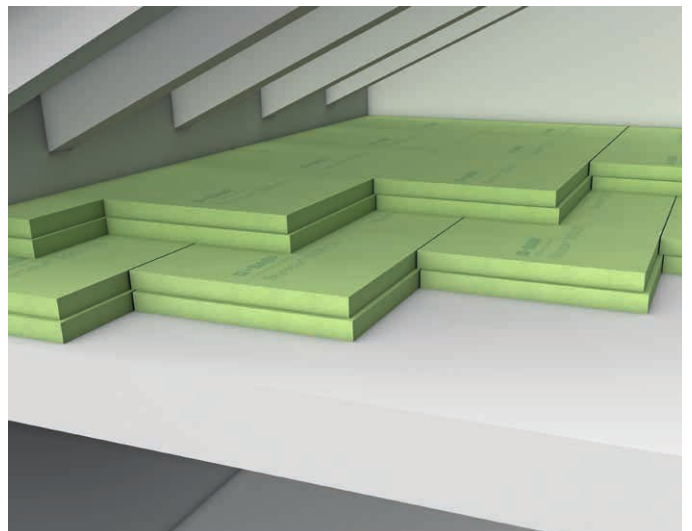
Why insulate the attic floor?

- Reduction in heating costs
- Energy efficiency
- Prevention of condensation water and mould
- Required under the GEG
- Reduction in CO_2 emissions


Attic insulation is a particularly effective measure, because it pays for itself after just a few years. The significant reduction in heating costs lowers the cost burden on residents considerably.

Installation instructions

Styrodur 3000 CS panels are laid loosely over the entire surface of the attic floor. The base must be dry and level. Any unevenness can be levelled out with a suitable filler, e.g. perlite. Depending on the existing structure, a vapour barrier might need to be installed below the insulation elements. Board joints should be offset. A distance of approx. 2 mm per metre of room depth, but at least 10-15 mm, must be maintained between the insulating material and the wall. Commercially available boundary insulation strips are to be used for the connection to the wall. In the direct light cone of skylights, Styrodur 3000 CS should be covered in order to protect it from strong UV radiation. The insulation boards can be walked on immediately and can be used as storage space. Minor damage will not reduce the insulation performance.



Technical data

Property	Unit	Designation code according to DIN EN 13164	3000 CS	Norm
Edge profile				
Surface			smooth	
Length x width	mm		1265 x 615	
Compressive strength or compressive stress at 10% deformation ¹⁾	kPa	CS(10\Y)	300	DIN EN 826
Permissible compressive stress over 50 years at <2% deformation ¹⁾	kPa	CC(2/1,5/50)	130	DIN EN 1606
Dimensional stability 70°C; 90% r.h.	%	DS(70,90)	≤ 5	DIN EN 1604
Deformation behaviour: load 40 kPa; 70 °C	%	DLT(2)5	≤ 5	DIN EN 1605
Linear coefficient of thermal expansion				
Longitudinal	mm/(m·K)	–	0,08	DIN 53752
Transverse	mm/(m·K)	–	0,06	
Euro fire behaviour	class	–	E	DIN EN 13501-1
Water absorption with long-term immersion	Vol.-%	WL(T)	0,7	DIN EN 12087
Water absorption in diffusion test	Vol.-%	WD(V)	3	DIN EN 12088
Water vapour diffusion resistance factor		MU	150–50	DIN EN 12086
Water absorption after frost-thaw cycle	Vol.-%	FTCD	1	DIN EN 12091
Application temperature limit	°C	–	75	DIN EN 14706

¹⁾ 100 kPa = 10 N/cm² = 100 kN/m² = 10 to/m²

Total thickness (mm)	λ_D	R_D	λ_B	Weight (kg/m ²)	Thermal resistance ([m ² ·K]/W)	U-value (W/[m ² ·K])
120	0,033	3,60	0,034	ca. 4,00	3,52	0,27
140	0,033	4,20	0,034	ca. 4,70	4,11	0,24
160	0,033	4,80	0,034	ca. 5,50	4,70	0,21
180	0,033	5,45	0,034	ca. 6,00	5,29	0,18
200	0,033	6,05	0,034	ca. 6,70	5,88	0,17
240	0,033	7,25	0,034	ca. 8,20	7,05	0,14

λ_D = declared thermal conductivity as per DIN EN 13164

R_D = declared thermal resistance as per DIN EN 13164

λ_B = rated value of thermal conductivity as per DIBt approval in line with DIN 4108

Note:

The information submitted in this publication is based on our current knowledge and experience and refers only to our product and its properties at the time of going to print. It does not imply any warranty or any legally binding assurance about the condition of our product. Attention must be paid to the requirements of specific applications, especially the physical and technological aspects of construction and building regulations. All mechanical drawings are basic outlines and have to be adapted to each application.

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