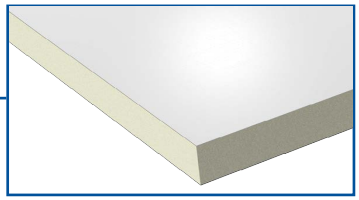
GTE



■ Description

STIFERITE GTE is a high performance insulation board manufactured from CFC or HCFC free, closed cell polyisocyanurate (PIR) foam. It's covered on both side by a multilayer facer based on aluminium.

■ Guideline for drafting of technical specifications

Thermal insulation **STIFERITE GTE** in polyiso rigid foam (PIR) of thickness…(*), covered on both side by a multilayer facer based on aluminium, has:

Declared thermal resistance: R_D= … m²K/W (EN 13165 Annex A and C)

... **(it is recommended to complete the technical specification using the most relevant features and performance for the specific application)**

STIFERITE GTE is produced of Company certified according to: **UNI EN ISO 9001** quality management system, **UNI EN ISO 14001** environmental management system, **UNI EN ISO 45001** occupational health and safety management system, and it has CE marking and labelling.
The **Environmental Product Declaration (EPD),** verified by the Third Party Liability, and the **Environmental Minimum Criteria (CAM)** according to **Green Public Procurement (GPP)** are available.

(*) Parameters change according to thickness or system. To determine the values corresponding to the thickness used, please use the specifications indicated on this technical sheet.

■ Dimensions

length and width
600 x 1200 mm
nominal thickness [d] EN 823:
from 20 to 180 mm

■ Main applications

Wall insulation
Floor insulation
Roof insulation under waterproof membrane with cold applied

■ MAIN CHARACTERISTICS AND PERFORMANCE - Relevant to the CE marking [UNI EN 13165]

■ Declared thermal conductivity - λ_D [W/mK]
UNI EN 13165 Annessi A e C
Value determined at an average temperature of 10° C
see table - values according to thickness

■ Declared thermal resistance - $R_D = d/\lambda_D$ - [m²K/W]
see table - values according to thickness

■ Declared thermal transmittance - $U_D = \lambda_D/d$ [W/m²K]
see table - values according to thickness

d mm	λ_D W/mK	R_D m²K/W	U_D W/m²K
20	0,022	0,91	1,10
30		1,36	0,73
40		1,82	0,55
50		2,27	0,44
60		2,73	0,37
70		3,18	0,31
80		3,64	0,28
100		4,55	0,22
120		5.45	0,18
140		6,36	0,16
160		7,27	0,14
180		8,18	0,12

■ Reaction to fire
EN 13501-1, EN 11925-2, EN 13823
E EUROCLASS

■ Compressive stress at 10% deformation - σ_{10} [kPa]
EN 826
> 150 [CS(10/Y)150] CE Designation code

■ Tensile strength perpendicular to faces - σ_{mt} [kPa]
EN 1607
> 30 [TR30] CE Designation code

■ Water vapour diffusion resistance factor - μ
EN 12086
> 89900 [MU89900] CE Designation code

■ Short term water absorption by partial immersion [kg/m²]
EN 1609
< 0,3 [WS(P)0,3] CE Designation code

■ Long term water absorption by total immersion [% weight]
EN 12087
< 1 [WL(T)1] CE Designation code

■ Deviation from flatness after one-sided wetting [mm]
EN 13165
≤ 10 [FW2] CE Designation code

■ Flatness tolerance S_{max} [mm]
EN 825
± 5 Area < 0,75 m²
± 10 Area > 0,75 m²

■ Dimensional stability [level]
EN 1604
48 h, 70° C, 90% R.H.
3 per d < 30 mm [DS(70;90)3] CE Designation code
4 per d ≥ 30 mm [DS(70;90)4] CE Designation code
48 h, -20° C
2 [DS(-20;0)2] CE Designation code

■ Tolerances [mm]
EN 13165
Length and width
± 5 < 1000 mm [T2] CE Designation code
± 7,5 da 1001 a 2000 mm [T2] CE Designation code

■ Thickness [mm]
± 2 < 50 mm [T2] CE Designation code
± 3 da 50 a 75 mm [T2] CE Designation code
+ 5/-2 ≥75 mm [T2] CE Designation code

OTHER CHARACTERISTICS AND PERFORMANCE

- **Overall density - ρ [kg/m³]**
  EN1602 Board average value
  34 ± 1,5
- **Specific heat - Cp [J/kg° K]**
  Average value
  1750
- **Compressive stress at 2% deformation - σ_2 [kg/m²]**
  EN 826
  > 5000
- **Pull-through resistance - [N]**
  EN 16382
  > 800
- **Compressive Creep - ε_{ct} [%]**
  EN 1606
  < 2 d = 140 mm [CC(2/1,5/50)25] CE Designation code
- **Deformation under compressive load and temperature conditions - ε_d [%]**
  EN 1605
  < 5 - load 20 kPa at 80° C for 48 h [DLT(1)5] CE Designation code
- **Water vapour resistance - Z [m²hPa/mg]**
  EN 12086
  13440
- **Dimensional stability [% Relative changes]**
  EN 1604
  7 d, 70° C
  < 1
- **Long term water absorption by diffusion - [$\%_w$]**
  EN 12088
  < 1,1 d = 20 mm
  < 0,1 d = 120 mm
- **Long term water absorption by diffusion - [kg/m²]**
  EN 12088
  < 0,22 d = 20 mm
  < 0,14 d = 120 mm
- **Emissivity - ε**
  > 0,05
- **Weight percentage of recycled material - [%]**
  Procedure REMADE®
  > 4

ADDITIONAL REPORTS AND CERTIFICATION

- **Management System Certification:**
  - UNI EN ISO 9001 quality management system,
  - UNI EN ISO 14001 environmental management system,
  - UNI EN ISO 45001 occupational health and safety management system
- **Environmental Product Declaration (EPD), by the Third Party Liability**
  ISO 14025 and EN 15804
- **Dynamic stiffness -s't [MN/m3]**
  EN 29052-1
  see “Isolamento Acustico” technical notebook on www.stiferite.com
  GT product
- **Acoustic isolation of wall - R_w [dB]**
  UNI EN ISO 140-3, UNI EN ISO 717-1
  54
  see “Isolamento Acustico” technical notebook on www.stiferite.com
  GT product
- **Reaction to fire - Steel deck roof**
  internal fire exposure to roof
  EN 13501-1, EN11925-2, EN 13823
  B s1 d0
- **Reaction to fire - continuous smouldering combustion**
  EN 16733
  No continuous smouldering combustion
- **External fire Exposure to roof**
  EN 1187
  Broof t1, t2, t3 and t4
- **Release of VOC volatile organic compounds**
  EN 16516, ISO 16000-3, ISO 16000-6
  Certificate Indoor Air Comfort Gold

NOTES

- **Temperature stability**
  Stiferite panels can be used in a continuous temperature range of -40° C to +110° C. For periods of time they can withstand temperatures up to + 200° C, or equivalent to the softening temperature of bitumen, without any particular problems. Long exposures at temperatures above + 110° C may cause deformations to the foam or coatings, but do not cause sublimation or melting.
- **Aspect**
  Any small non-adhesion areas between the facers and the foam or holes originate from the production process and they do not in any way affect the physical-mechanical properties of the panels. A prolonged exposure of polyurethane foam to UV rays can cause surface oxidation, the phenomenon does not affect the basic characteristics and performance of the panel.
- **Packaging & Storage**
  STIFERITE panels of standard sizes are normally packed with PE, in closed packages with CE mark label. Store the packages raised from the ground. For long periods, store the packages in wet area.
- **Warning**
  The data shown in this sheet are binding for the features and performances provided by the CE marking. Other features and additional information may be modified even if no specific signal is available.
- **Other notes**
  To obtain technical data not covered in this Technical Data Sheet, contact the Stiferite Technical Office