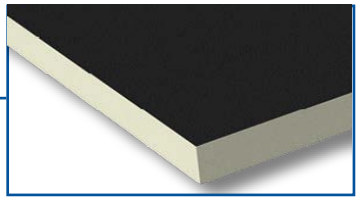
FIRE B



■Description

STIFERITE FIRE B is a high performance insulation board manufactured from CFC or HCFC free, closed cell polyisocyanurate (PIR) foam. It's covered on the side to be exposed to fire risk with a fiber glass integrated with expandable graphite, called Stiferite Fire B facer®, and on the other side from saturated mineral glass.

■Guideline for drafting of technical specifications

Thermal insulation **STIFERITE FIRE B** in polyiso rigid foam (PIR) of thickness—(*), covered on the side to be exposed to fire risk with a fiber glass integrated with expandable graphite, called Stiferite Fire B facer®, and on the other side from saturated mineral glass, has:

Declared thermal resistance: R_D= — m^2K/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 FIRE B is produced of Company certified according to: **UNI EN ISO 9001:2015** quality management system, **UNI EN ISO 14001:2015** environmental management system, **OHSAS 18001:2007** 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 200 mm

■ Main applications

Isolation of all applications where the highest reaction to fire performance obtainable from organic panels is required.
Insulation of ventilated walls.
Insulation of roofs under waterproof membranes 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 - $R_D = d/\lambda_D$ - [m^2K/W]
see table - values according to thickness

■ Declared thermal transmittance - $U_D = \lambda_D/d$ [W/m^2K]
see table - values according to thickness

d mm	λ_D W/mK	R_D m^2K/W	U_D W/m^2K
20	0,027	0,74	1,35
30		1,11	0,90
40		1,48	0,68
50	0,026	1,92	0,52
60		2,31	0,43
70		2,69	0,37
80		3,08	0,33
100	0,025	4,00	0,25
120		4,80	0,21
140		5,60	0,18
160		6,40	0,16
180	0,024	7,50	0,13
200		8,33	0,12

■ Reaction to fire
EN 13501-1, EN 11925-2, EN 13823
B s1 d0 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
> 35 [TR35] CE Designation code

■ Water vapour diffusion resistance factor - μ
EN 12086
56 ± 2 [MU56] CE Designation code

■ Short term water absorption by partial immersion [kg/m^2]
EN 1609
< 0,2 [WS(P)0,2] CE Designation code

■ Long term water absorption by total immersion [% weight]
EN 12087
< 2 per d < 120 mm [WL(T)2] CE Designation code
< 1 per d ≥ 120 mm [WL(T)1] CE Designation code

■ Deviation from flatness after one-sided wetting [mm]
EN 13165
≤ 10 [FW10] CE Designation code

■ Flatness tolerance S_{max} [mm]
EN 825
± 5 Area < 0,75 m^2
± 10 Area > 0,75 m^2

■ Dimensional stability [level]
EN 1604
48 h, 70° C, 90% R.H.
3 per d < 40 mm [DS(70;90)3] CE Designation code
4 per d ≥ 40 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
  47 ± 1,5
- **Specific heat - Cp [J/kg° K]**
  Average value
  1464
- **Compressive stress at 2% deformation - σ_2 [kg/m²]**
  EN 826
  > 5000
- **Deformation under compressive load and temperature conditions - ε_d [%]**
  EN 1605
  ≤ 5 - load 20 kPa at 80° C for 48 h Designation code CE [DLT(1)5]
- **Compressive Creep - ε_d [%]**
  EN 1606
  < 1.5 d = 200 mm [CC(1.5/1.0/50)25] CE Designation code
- **Pull-through resistance - [N]**
  EN 16382
  > 750
- **Water vapour resistance - Z [m²hPa/mg]**
  EN 12086
  4,2 - 8,0
- **Dimensional stability [% Relative changes]**
  EN 1604
  48 h, 70° C
  < 1
- **Weight percentage of recycled material - [%]**
  Insulation foam
  >4

ADDITIONAL REPORTS AND CERTIFICATION

- **Management System Certification:**
  - UNI EN ISO 9001:2015 quality management system,
  - UNI EN ISO 14001:2015 environmental management system,
  - OHSAS 18001:2007occupational health and safety management system
- **Environmental Product Declaration (EPD), by the Third Party Liability**
  ISO 14025 and EN 15804
- **External fire Exposure to roof**
  EN 1187
  Broof (t 2) and Broof (t 3)
- **Reaction to fire - continuous smouldering combustion**
  EN 16733
  No continuous smouldering combustion
- **Release of volatile organic compounds**
  UNI EN ISO 16000
  A French class

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