

**Technical data sheet**

# GTE

**DESCRIPTION**

STIFERITE GTE is an high performance insulation board manufactured from CFC or HCFC free closed cell rigid polyisocyanurate polyiso foam. It's covered on both side with gas diffusion tight facing (aluminium foil).

**MAIN APPLICATIONS**

- Insulation of roofs where need vapour proof
- Insulation of floors where need vapour proof
- Insulation of walls where need vapour proof

**GUIDELINE FOR DRAFTING OF TECHNICAL SPECIFICATIONS\***

Thermal insulation **STIFERITE GTE** in polyiso rigid foam (PIR) of thickness...(\*), covered on both sides with gas diffusion tight facing (aluminium foil), has:

- Declared thermal conductivity:  $\lambda_D = 0.023 \text{ W/mK}$  (EN 13165 Annessi A e C)
- Weight percentage of recycled material: **3.32 – 2.72 %**
- Weight percentage of renewable material: **10.12 – 4.84 %**
- Compressive strength at 10% deformation: **minimum value = ... kPa (EN 826)**
- Compressive strength at 2% deformation: **minimum value = ... kg/m<sup>2</sup> (EN 826)**
- Water vapour diffusion resistance factor for 100 mm of thick:  **$\mu > 89900$  (EN 12086)**
- Water vapour diffusion resistance:  **$Z > 13440 \text{ m}^2\text{hPa/mg}$  EN 12086)**
- Flatness after one-sided wetting:  **$FW \leq 10 \text{ mm}$  (EN 13165)**
- Water absorption by total immersion:  **$W_{it} < 1 \%$  (EN 12087)**
- Water absorption by partial immersion:  **$W_{sp} < 0.1 \text{ kg/m}^2$  (EN 1609)**
- Euroclass reaction to fire: **E (EN 11925-2)**

**Product of Company certified according to UNI EN ISO 9001:2000 specifications, with CE conformity mark on the whole range.**

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

## Characteristics and performances

**Thermal insulation**

Characteristics [Standard]	Description	Symbol [Units]	Value									
			Some characteristics depend on the thickness (mm)									
			20	30	40	50	60	70	80	90	100	120
Average initial thermal conductivity [EN 12667]	Value determinad at 10 °C	$\lambda_{90/90,1}$ [W/mK]	<b>0,022</b>									
Declared thermal conductivity [UNI EN 13165 annex A e C]	Value determinad at 10 °C C	$\lambda_D$ [W/mk]	<b>0,023</b>									
Declared thermal trasmittance	$U_D = \lambda_D / d$	$U_D$ [W/m <sup>2</sup> K]	<b>1.15</b>	<b>0.77</b>	<b>0.58</b>	<b>0.46</b>	<b>0.38</b>	<b>0.33</b>	<b>0.29</b>	<b>0.26</b>	<b>0.23</b>	<b>0.19</b>
Declared thermal resistance	$R_D = d / \lambda_D$	$R_D$ [m <sup>2</sup> K/W]	<b>0.87</b>	<b>1.30</b>	<b>1.74</b>	<b>2.17</b>	<b>2.61</b>	<b>3.04</b>	<b>3.48</b>	<b>3.91</b>	<b>4.35</b>	<b>5.22</b>

For other characteristics see back →

Other information	To obtain further technical data call <b>green numer 800840012</b>		
Technical data sheet	Stiferite GTE	Rev. 8 01/04/2016	Author: F. Raggiotto Verified: L. Tolin

**Technical data sheet**

**GTE**

**Characteristics and performances**

Characteristics [Standard]	Description	Symbol [Units]	Value Some characteristics depend on the thickness (mm)									
			20	30	40	50	60	70	80	90	100	120
Board density	Average value with facing characteristics	$\rho$ [Kg/m <sup>3</sup> ]	34 ± 1.5									
Nominal thickness [EN 823]		$d_N$ [mm]	production from 20 to 80 mm. Available on order until 120 mm									
Compressive strength [EN 826]	Value determined at 10% deformation	$\sigma_{10} \text{ o } \sigma_m$ [kPa]	150	140	140	140	140	150	130	130	130	130
Compressive strength [EN 826]	Value determined at 2% deformation	$\sigma_2$ [kPa]	6000	5000	5200	6000	6000	6000	6000	5000	5000	5000
Dimensional stability under specified temperature and umidity [EN 1604]	48h (±1) a 70°C (±2) e 90% UR (±5)	DS(TH) [% dimensions]	1	1	1	1	1	1	1	1	1	1
		[% thickness]	5	4	4	4	4	4	4	4	4	4
	48h (±1) a -20°C (±3)	[% dimensions]	0,5	0,5	0,5	0,5	0,5	0,5	0,5	0,5	0,5	0,5
		[% thickness]	1	1	1	1	1	1	1	1	1	1
Euroclass reaction to fire [EN 13501-1] [EN 11925 -2] [EN 13823 (SBI)]	Class	Euroclass	E									
Euroclass reaction to fire [EN 13501-1] [EN 11925 -2] [EN 13823 (SBI)]	For steel deck application	Euroclass	B s1 d0 - B s2 d0 depend on the joint									
Specific heat capacity	Value	$C_p$ [J/kg K]	1442									
Emisivity of the facing	Value	$\epsilon$	> 0.05									
Water vapor diffusion resistance factor [EN 12086]	Value For 100 mm of thick	$\mu$ (MU)	> 89900									
Water vapor diffusion resistance [EN 12086]	The variation depends on the thickness	$Z$ [m <sup>2</sup> hPa/mg]	> 13440									
Pull through [EN 16382]	Value	[N]	> 800									
Flatness after one-sided wetting [EN 13165]	Value	FW [mm]	≤ 10									
Water absorption [EN 12087]	Total immersion for 28 days	$W_{it}$ [%]	Less than 1% <sub>w</sub>									
Water absorption [EN 1609]	Partial immersion	$W_{ip}$ [kg/m <sup>2</sup> ]	Less than 0.1									

For other characteristics see back →

Other information	To obtain further technical data call <b>green numer 800840012</b>		
Technical data sheet	Stiferite GTE	Rev. 8 01/04/2016	Author: F. Raggiotto Verified: L. Tolin

**Technical data sheet**

**GTE**

**Characteristics and performances**

Characteristics [Standard]	Description	Symbol [Units]	Value Some characteristics depend on the thickness (mm)									
			20	30	40	50	60	70	80	90	100	120
Water absorption [EN 12088]	By diffusion for 28 days	$W_{dv}$ [%]	1.1 (thickness 20 mm)									
		$W_{dv}$ [%]	0.1 (thickness 120 mm)									
		$W_{dp}$ [kg/m <sup>2</sup> ]	0.22 (thickness 20 mm)									
		$W_{dp}$ [kg/m <sup>2</sup> ]	0.14 (thickness 120 mm)									
emission rate of volatile organic compounds [EN 16000-9]	Value For 20 mm of thick	-	available on request									
Weight percentage of recycled material	The variation depends on the thickness	%	3.32 – 2.72									
Weight percentage of renewable material	The variation depends on the thickness	%	10.12 – 4.84									

For other characteristics see back →

**Tolerances and notes**

Tolerances [UNI EN 13165]	Thickness	T2 [mm]	<50 ±2 mm		from 50 to 75 ±3 mm		>75 +5 /-2 mm	
	Dimensions		< 1000 ±5 mm	from 1000 to 2000 ±7,5 mm	from 2000 to 4000 ±10 mm	> 4000 ±15 mm		
Notes	stability to the temperature	Stiferite panels are used in a range of continuous temperatures normally included between -40 °C e +110 °C. During short time they can resist also to temperatures till + 200 °C, or corresponding to the temperature of fused, without particular problems. Long exposures to the temperatures could cause deformations to the foam or to the coats, but without causing sublimation or fusion. and some other reactions to fire are characteristics connected with the kind of used panel.						
	Resistance to the torch for bituminous membrane application	The board is not usable for directly torch. For torch application use Stiferite GT3, GT4 and GT5.						
	Aspect	Any possible little areas of non-adhesion between coats and foam are originated by the production process and don't prejudice in any way the physical-mechanical properties of the panels.						

Other information	To obtain further technical data call <b>green numer 800840012</b>		
Technical data sheet	Stiferite GTE	Rev. 8 01/04/2016	Author: F. Raggiotto Verified: L. Tolin