STIFERITE Srl
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Technical data sheet

GTE

DESCRIPTION

STIFERITE GTE is an height performance insulation board with a rigid polyisocyanurate polyiso foam core, blowing without CFC or HCFC, coverd 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:

Declareted thermal conductivity: **λ_D= 0.023 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 strenght at 2% deformation: **minimum value = … kg/m^2 (EN 826)**
Water vapour diffusion resistance factor for 100 mm of thick: **μ > 89900 (EN 12086)**
Water vapour diffusion resistance: **Z > 13440 m^{2}hPa/mg EN 12086)**
Tensile strength perpendicular to faces: **σ_{mt} > 50 kPa**
Flatness after one-sided wetting: **FW ≤ 10 mm (EN 13165)**
Water absorptin by total immersion: **W_{lt} < 1 % (EN 12087)**
Water absorptin by partial immersion: **W_{sp} < 0.1 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.

(*) Not stated parameters change according to thickness. For introducing the values corresponding to the used thickness, please use the specifications indicated on this technical sheet.

Characteristics and performances

Thermal insulation

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

For other characteristics see back →

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Characteristics and performances

Characteristics [Standard]	Describtion	Symbol [Units]	Value Some characteristis depend on the thickness (mm)									
			20	30	40	50	60	70	80	90	100	120
Board density	Average value with facing caracteristics	ρ [Kg/m^3]	34 ± 1.5									
Nominal thickness [EN 823]		d_N [mm]	production from 20 to 80 mm. Available on order until 120 mm									
Compressive strenght [EN 826]	Value determinad at 10% deformation	σ_{10} o σ_m [kPa]	150	140	140	140	140	150	130	130	130	130
Compressive strenght [EN 826]	Value determinad at 2% deformation	σ_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℃ (±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℃ (±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									
Specific heat capacity	Value	Cp [J/kg K]	1442									
Emisisvity of the facing	Value	ε	> 0.05									
Water vapor diffusion resistance factor [EN 12086]	Value For 100 mm of thick	μ (MU)	> 89900									
Water vapor diffusion resistance [EN 12086]	The variation depends on the thickness	Z [m^{2}hPa/mg]	> 13440									
Tensile strength perpendicular to faces [EN 1607]	Value	σ_{mt} [kPa]	More than 50									
Flatness after one-sided wetting [EN 13165]	Value	FW [mm]	≤ 10									
Water absorption [EN 12087]	Total immersion for 28 days	W_{lt} [%]	Less than 1%$_w$									
Water absorption [EN 1609]	Partial immersion	W_{lp} [kg/m^2]	Less than 0.1									
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									

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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 ℃ e +110 ℃. During short time they ca n resist also to temperatures till + 200 ℃, or corresponding to the temperature of fu sed, 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.				