

Technical data sheet

GT

DESCRIPTION

STIFERITE GT 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 Duotwin® facing.

MAIN APPLICATIONS

Insulation of roofs
Insulation of floors
Insulation of walls

GUIDELINE FOR DRAFTING OF TECHNICAL SPECIFICATIONS*

Thermal insulation **STIFERITE GT** in polyiso rigid foam (PIR) of thickness...(*), covered on both sides with Duotwin® facing, has:

Declared thermal conductivity: $\lambda_D = 0.023 \text{ W/mK}$ (EN 13165 Annessi A e C)
Weight percentage of recycled material: **3.14 – 2.49 %**
Weight percentage of renewable material: **3.66 – 2.87 %**
Compressive strength at 10% deformation: **minimum value = ... kPa** (EN 826)
Compressive strength at 2% deformation: **minimum value = ... kg/m²** (EN 826)
Water vapour diffusion resistance factor for thick 100 mm : **$\mu = 148$** (EN 12086)
Water vapour diffusion resistance: **$Z = ... \text{ m}^2 \text{hPa/mg}$** (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: **F** (EN 11925-2)
Apparent dynamics stiffness: **$s'_t = ... \text{ MN/m}^3$** (EN 29052-1)
Environmental product declaration for 80 mm thickness (ISO 14040 and MSR 1999:2)

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	100	120	140
Average initial thermal conductivity [EN 12667]	Value determined at 10 °C	$\lambda_{90/90,1}$ [W/mK]	0,022									
Declared thermal conductivity [UNI EN 13165 annex A e C]	Value determined at 10 °C C	λ_D [W/mk]	0,023									
Declared thermal transmittance	$U_D = \lambda_D / d$	U_D [W/m ² K]	1.15	0.77	0.58	0.46	0.38	0.33	0.29	0.23	0.19	0.16
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	4.35	5.22	6.08

For other characteristics see back →

Other information	To obtain further technical data call green numer 800840012		
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Characteristics and performances

Characteristics [Standard]	Description	Symbol [Units]	Value Some characteristics depend on the thickness (mm)										
			20	30	40	50	60	70	80	100	120	140	
Board density	Average value with facing characteristics	ρ [Kg/m ³]	36 ± 1.5										
Nominal thickness [EN 823]		d_N [mm]	production from 20 to 140 mm										
Compressive strength [EN 826]	Value determined at 10% deformation	σ_{10} o σ_m [kPa]	150	150	150	150	150	150	150	150	150	150	150
Compressive strength [EN 826]	Value determined at 2% deformation	σ_2 [kPa]	6000	5000	5200	6000	6000	6000	6000	6000	5000	5000	5000
Dimensional stability under specified temperature and umidity [EN 1604]	48h (±1) a 70°C (±2) e 90% RH (±5)	DS(TH) [% dimensions]	1	1	1	1	1	1	1	1	1	1	1
		[% thickness]	5	4	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	0,5
		[% thickness]	1	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	F										
Euroclass reaction to fire [EN 11925 -2]	Foam	Euroclass	E										
Specific heat capacity	Value	C_p [J/kg K]	1453										
Acoustic isolation to wall [UNI EN ISO 140-3] [UNI EN ISO 717-1]	Stratigraphy: o 15 mm plaster o Brick from 12 mm o STIFERITE GT from 40 mm o Air from 10 mm o Brick from 8 mm o 15 mm plaster	R_w [dB]	54										
Acoustic isolation to wall [UNI EN ISO 140-3] [UNI EN ISO 717-1]	Stratigraphy: o 15 mm plaster o Brick from 12 mm o STIFERITE GT from 50 mm o Brick from 12 mm o 15 mm plaster	R_w [dB]	53										
Apparent dynamics stiffness [UNI EN ISO 29052-1]	value	s^t [MN/m ³]	68 (thickness 20 mm)										
			59 (thickness 20 mm)										
Reduction of transmitted impact noise [UNI EN ISO 140-8] [UNI EN ISO 717-2]	Stratigraphy: o floor coverings o STIFERITE GT from 20 mm o heavyweight standard floor from 100 kg/m ²	ΔL_w [dB]	18										

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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 vapor diffusion resistance factor [EN 12086]	Value For 100 mm of thick	μ (MU)	148 ± 24									
Water vapor diffusion resistance [EN 12086]	The variation depends on the thickness	Z [m ² hPa/mg]	82 – 21									
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% _w									
Water absorption [EN 1609]	Partial immersion	W _{Ip} [kg/m ²]	Less than 0.1									
Water absorption [EN 12088]	By diffusion for 28 days	W _{dV} [%]	2.1 (thickness 20 mm)									
		W _{dV} [%]	0.3 (thickness 120 mm)									
		W _{dP} [kg/m ²]	0.43 (thickness 20 mm)									
		W _{dP} [kg/m ²]	0.41 (thickness 120 mm)									
emission rate of volatile organic compounds [EN 16000-9]	Value For 80 mm of thick	–	available on request									
Weight percentage of recycled material	The variation depends on the thickness	%	3.14 – 2.49									
Weight percentage of renewable material	The variation depends on the thickness	%	3.66 – 2.87									

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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 °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.				

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