STIFERITE Srl
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Technical data sheet

RP1

DESCRIPTION

STIFERITE RP1 is an height performance insulation sandwich board made with STIFERITE GTC, a rigid polyisocyanurate polyiso foam core, blowing without CFC or HCFC, coverd on both side with Polytwin® facing, and bonded to one side with plasterboard.

MAIN APPLICATIONS

Technical insulation and gluing panel
Torch application is not recommended with this product

GUIDELINE FOR DRAFTING OF TECHNICAL SPECIFICATIONS*

Thermal insulation **STIFERITE RP1** mades with **STIFERITE GTC** in polyisocyanurate polyiso foam (PIR) of thickness…(*), covered on both sides with Polytwin® facing, and bonded to one side with plasterboard, has:

RP1 board property
Euroclass reaction to fire: **B s1 d0 (EN 13950)**
Acoustic isolation to wall: **Rw = 52 dB (UNI 140-3 and 717-1)**
Weight percentage of recycled material: **4.60 – 3.65 %**
Weight percentage of renewable material: **11.02 – 6.46 %**

Thermal insulation property
Declareted thermal conductivity: **λ_D= 0.023 W/mK (EN 13165 Annex A e C)**
Compressive strength at 10% deformation: **minimum value = … kPa (EN 826)**
Compressive □etermin at 2% deformation: **minimum value = … kg/m^2 (EN 826)**
Water vapour diffusion resistance factor for 100 mm of thick: **μ = 148 (EN 12086)**
Water vapour diffusion resistance : **Z = … 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 □etermined by total immersion: **W_{lt} < 1 % (EN 12087)**
Water □etermined by partial immersion: **W_{sp} < 0.1 kg/m^2 (EN 1609)**
Euroclass reaction to fire: **F (EN 11925-2)**

Plasterboard property
Thickness: **9.5 mm**
Euroclass reaction to fire: **A2 s1 d0 (EN 13501-1)**

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

RP1 board

Characteristics [Standard]	Describtion	Symbol [Units]	Value Some characteristis depend on the thickness (mm)									
			20	30	40	50	60	70	80	90	100	120
Euroclass reaction to fire [EN 13950]	Adhesive fixing or solid structure as you want. Vertical and horizontal meetline not protected	Euroclass	B s1 d0									

For other characteristics see back →

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Characteristics [Standard]	Describtion	Symbol [Units]	Value Some characteristis depend on the thickness (mm)									
			20	30	40	50	60	70	80	90	100	120
Acoustic isolation to wall [UNI EN ISO 140-3] [UNI EN ISO 717-1	Stratigraphy: ○ 15 mm plaster ○ Brick from 25 mm ○ STIFERITE RP1: 62.5 mm (STIFERITE GTC from 60 mm and plasterboard from 12.5 mm)	R_w [dB]	52									
emission rate of volatile organic compounds [EN 16000-9]	Value For 70 mm of thick	–	available on request									
Weight percentage of recycled material	The variation depends on the thickness	%	**4.60 – 3.65**									
Weight percentage of renewable material	The variation depends on the thickness	%	**11.02 – 6.46**									

Thermal insulation 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
Average initial thermal □etermined□y [EN 12667]	Value determinad at 10 ℃	$\lambda_{90/90,I}$ [W/mK]	**0,022**									
Declared thermal conductivity [UNI EN 13165 annex A e C]	Value □etermined at 10 ℃ 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**
Board density	Average value with facing caracteristics	ρ [Kg/m^3]	36 ± 1.5									
Nominal thickness [EN 823]		d_N [mm]	production from 20 to 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% RH (±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
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Thermal insulation 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
Euroclass reaction to fire [EN 13501-1] [EN 11925 -2] [EN 13823 (SBI)]	Class	Euroclass	F									
Euroclass reaction to fire [EN 13501-1] [EN 11925 -2] [EN 13823 (SBI)]	foam	Euroclass	E									
Specific heat capacity	Value	Cp [J/kg K]	1453									
Acoustic isolation to wall [UNI EN ISO 140-3] [UNI EN ISO 717-1]	Stratigraphy: ○ 15 mm plaster ○ Brick from 12 mm ○ STIFERITE GT from 40 mm ○ Air from 10 mm ○ Brick from 8 mm ○ 15 mm plaster	R_w [dB]	54									
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^2hPa/mg]	82 – 21									
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 80 mm of thick	–	available on request									
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Plasterboard property

Characteristics [Standard]	Describtion	Symbol [Units]	Value
Thickness		[mm]	9.5
Density	Valore medio	[kg/m^3]	737 ± 30
Euroclass reaction to fire [EN 13501-1] [EN 13823 (SBI)]	Class	Euroclass	A2 - s1 - d0
Thermal conductivity [UNI 10351-94]		[W/m K]	0.21
Superficial hardness [UNI 7892]		[mm]	< 20
Bending strenght	Longitudinal (minimum value)	[N]	400
	Trasversal (minimum value)	[N]	160

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 bitumen, without particular problems. Long exposures to the temperatures could cause deformations to the foam or to the coats, but without causing sublimation or fusion. Resistance to the torch and some other reactions to fire are characteristics connected with the kind of used panel.				
	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.				