

Technical data sheet

Ai8

DESCRIPTION

STIFERITE Ai8 is an height performance insulation board with a rigid polyisocyanurate polyiso foam core, blowing without CFC or HCFC, covered on both faces with embossed aluminium 80µm thickness.

MAIN APPLICATIONS

- Under floor insulation
- Ventilated wall insulation
- Vapour proof wall insulation
- Industrial insulation

GUIDELINE FOR DRAFTING OF TECHNICAL SPECIFICATIONS*

Thermal insulation **STIFERITE Ai8** in polyiso rigid foam (PIR) of thickness...(*), covered on both sides with embossed aluminium 80µm thickness, has:

- Declared thermal conductivity: $\lambda_D = 0.023 \text{ W/mK}$ (EN 13165 Annex A e C)
- Weight percentage of recycled material: **8.37 – 2.98 %**
- Weight percentage of renewable material: **3.84 – 2.57 %**
- 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: **$\mu = \text{endless}$** (EN 12086)
- Tensile strength perpendicular to faces: **$\sigma_{mt} > 90 \text{ kPa}$**
- Flatness after one-sided wetting: **$FW \leq 10 \text{ mm}$** (EN 13165)
- Water absorptin by total immersion: **$W_{it} < 1 \%$** (EN 12087)
- Water absorptin by partial immersion: **$W_{sp} < 0.1 \text{ kg/m}^2$** (EN 1609)
- Euroclass reaction to fire: **... (EN 13823)**

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

Isolamento Termico

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]	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 →

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	90	100	120
Board density	Average value with facing characteristics	ρ [Kg/m ³]	42 ± 1.5									
Nominal thickness [EN 823]		d_N [mm]	production from 20 to 60 mm. Available on order until 120 mm									
Compressive strenght [EN 826]	Value determinad at 10% deformation	$\sigma_{10} \text{ o } \sigma_m$ [kPa]	160	160	150	160	150	150	150	150	150	150
Compressive strenght [EN 826]	Value determinad at 10% deformation	σ_2 [kg/m ²]	6000	6000	6000	4500	6000	4500	4500	4500	4500	4500
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
		[% thickness]	6	5	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)]	Vertical and horizontal meetline not protected	Euroclass	D s2 d0									
Euroclass reaction to fire [EN 13501-1] [EN 11925 -2] [EN 13823 (SBI)]	Vertical and horizontal meetline protected	Euroclass	20 mm					30 mm				
			B s2 d0					B s1 d0				
British reaction to fire [BS 476]	[BS476: parte 6:1989]	Class	0									
	[BS476: parte 7:1997]	Class	1									
	[BS476: parte 6/7]	Class	0									
Specific heat capacity	Value	C_p [J/kg K]	1349									
Water vapor diffusion resistance factor [EN 12086]	Value	μ (MU)	Endless									
Tensile strength perpendicular to faces [EN 1607]	Value	σ_{mt} [kPa]	More than 90									
Flatness after one-sided wetting [EN 13165]	Value	FW [mm]	≤ 10									
Water absorption [EN 12087]	Total immersion for 28 days	WL [%]	Less than 1% _w									
Water absorption [EN 1609]	Partial immersion	W_{ip} [kg/m ²]	Less than 0.1									

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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
Weight percentage of recycled material	The variation depends on the thickness	%	8.37 – 2.98									
Weight percentage of renewable material	The variation depends on the thickness	%	3.84 – 2.57									

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 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.				

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