

CLASS SK

DESCRIPTION

STIFERITE CLASS SK is an height performance insulation board with a rigid polyisocyanurate polyiso foam core, blowing without CFC or HCFC, covered on both side with saturated fiber glass.

MAIN APPLICATIONS

External thermal insulation

GUIDELINE FOR DRAFTING OF TECHNICAL SPECIFICATIONS*

Thermal insulation **STIFERITE CLASS SK** in polyiso rigid foam (PIR) of thickness...(*), covered on both sides with saturated glass fiber, has:

Declared thermal conductivity: $\lambda_D = \dots$ W/mK (EN 13165 Annessi A e C)

Weight percentage of recycled material: **3.23 – 2.45 %**

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: **$\mu = 56$ (EN 12086)**

Water vapour diffusion resistance: **$Z = 8.0$ m²hPa/mg (EN 12086)**

Tensile strength perpendicular to faces: **$\sigma_{mt} > 80$ kPa**

Deviation from flatness: **$S_{max} \pm 5$ mm (EN 825)**

Flatness after one-sided wetting: **$FW \leq 10$ mm (EN 13165)**

Water absorptin by total immersion: **$W_{it} < \dots$ % (EN 12087)**

Water absorptin by partial immersion: **$W_{sp} < 0.2$ kg/m² (EN 1609)**

Euroclass reaction to fire: **E (EN 11925-2)**

Environmental product declaration for 60 mm thickness (ISO 14040 and MSR 1999:2)

Technical Approval, External Thermal Insulation Composite System: **ETA 09/0060 and ETA 10/0027**

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	40	50	60	70	80	90	100	120	140
Average initial thermal conductivity [EN 12667]	Value determined at 10 °C	$\lambda_{90/90,1}$ [W/mK]	0,024									
Declared thermal conductivity [UNI EN 13165 annex A e C]	Value determined at 10 °C	λ_D [W/mk]	0,028 thickness 20 - 70									
			0,026 thickness 80 - 140									
Declared thermal transmittance	$U_D = \lambda_D / d$	U_D [W/m ² K]	1.40	0.70	0.56	0.47	0.40	0.33	0.29	0.26	0.22	0.19
Declared thermal resistance	$R_D = d / \lambda_D$	R_D [m ² K/W]	0.71	1.43	1.79	2.14	2.50	3.03	3.49	3.85	4.62	5.38

For other characteristics see back →

Other information	To obtain further technical data call green numer 800840012		
Technical data sheet	Stiferite CLASS SK	Rev. 3 20/01/2011	Author: F. Raggiotto Verified: L. Tolin

Technical data sheet

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Characteristics and performances

Characteristics [Standard]	Description	Symbol [Units]	Value Some characteristics depend on the thickness (mm)										
			20	40	50	60	70	80	90	100	120	140	
Project thermal conductivity [UNI EN 12667]	Value determinad at 20 °C and 50 % RH	λ_U [W/mk]	0,026 thickness 80 - 120										
Board density	Average value with facing characteristics	ρ [Kg/m ³]	35 ± 1.5										
Nominal thickness [EN 823]		d_N [mm]	production from 20 to 140 mm										
Compressive strenght [EN 826]	Value determinad at 10% deformation	$\sigma_{10} \text{ o } \sigma_m$ [kPa]	160	150	150	160	160	150	150	150	150	150	150
Compressive strenght [EN 826]	Value determinad at 2% deformation	σ_2 [kPa]	5000	5000	5000	6000	6000	5000	6000	6000	6000	6000	6000
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]	6	5	4	3	3	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
Dimensional stability under specified temperature [EN 1604]	70°C (±2) for 7 days	[% dimensions]	< 0.5										
Euroclass reaction to fire [EN 13501-1] [EN 11925 -2] [EN 13823 (SBI)]	Class	Euroclass	E										
Specific heat capacity	Value	C_p [J/kg K]	1464										
Modulus of elasticity for compressive	Value	[kg/cm ²]	57.9 ± 9.62										
Modulus of elasticity for tensile	Value	[kg/cm ²]	56.4 ± 4.66										
Shear modulus [EN 12090]	Value	[N/mm ²]	> 1.8										
Acoustic isolation to wall [UNI EN ISO 140-3] [UNI EN ISO 717-1]	Stratigraphy: o 15 mm plaster o Brick from 25 mm o External thermal insulation with STIFERITE CLASS S from 80 mm	R_w [dB]	52										
Water vapor diffusion resistance factor [EN 12086]	Value	μ (MU)	56 ± 2										
Water vapor diffusion resistance [EN 12086]	Value	Z [m ² hPa/mg]	8.0 ± 0.3										
Tensile strength perpendicular to faces [EN 1607]	Value	σ_{mt} [kPa]	More than 80										

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Technical data sheet

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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
Deviation from flatness [EN 825]	Value	S _{max} [mm]	± 5									
Flatness after one-sided wetting [EN 13165]	Value	FW [mm]	≤ 10									
Water absorption [EN 12087]	Total immersion for 28 days	W _{lt} [%]	Less than 2% _w ; thickness 20 – 110									
			Less than 1% _w ; thickness 120 – 140									
Water absorption [EN 1609]	Partial immersion	W _{lp} [kg/m ²]	Less than 0.2									
Weight percentage of recycled material	The variation depends on the thickness	%	3.23 – 2.45									
Technical Approval [EOTA – ETAG 04]	External Thermal Insulation Composite System		Available on request European Technical Approval ETA 09/0060 e ETA 10/0027									

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 +120 °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. 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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