

# CLASS SH

## DESCRIPTION

STIFERITE CLASS SH 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

Insulation of roofs also under synthetic mantles  
Insulation of floors under load  
Insulation of walls

## GUIDELINE FOR DRAFTING OF TECHNICAL SPECIFICATIONS\*

Thermal insulation **STIFERITE CLASS SH** 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: **3.00 – 2.70 %**  
Compressive strength at 10% deformation: **minimum value = ... kPa (EN 826)**  
Compressive strength at 2% deformation: **minimum value = ... kg/m<sup>2</sup> (EN 826)**  
Water vapour diffusion resistance:  **$\mu = 56$  (EN 12086)**  
Water vapour diffusion resistance:  **$Z = 8.0$  m<sup>2</sup>/hPa (EN 12086)**  
Tensile strength perpendicular to faces:  **$\sigma_{mt} > 70$  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:  **$WL < 2$  % (EN 12087)**  
Water absorptin by partial immersion:  **$W_{sp} < 0.2$  kg/m<sup>2</sup> (EN 1609)**  
Euroclass reaction to fire: **E (EN 11925-2)**  
Eviromental product declaration for 60 mm thickness (ISO 14040 e MSR 1999:2)

**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

### 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]	<b>0,024</b>									
Declared thermal conductivity [UNI EN 13165 annex A e C]	Value determinad at 10 °C C	$\lambda_D$ [W/mk]	<b>0,028</b> thickness 20 - 70									
			<b>0,026</b> thickness 80 - 120									
Declared thermal trasmittance	$U_D = \lambda_D / d$	$U_D$ [W/m <sup>2</sup> K]	<b>1.40</b>	<b>0.93</b>	<b>0.70</b>	<b>0.56</b>	<b>0.47</b>	<b>0.40</b>	<b>0.33</b>	<b>0.29</b>	<b>0.26</b>	<b>0.22</b>
Declared thermal resistance	$R_D = d / \lambda_D$	$R_D$ [m <sup>2</sup> K/W]	<b>0.71</b>	<b>1.07</b>	<b>1.43</b>	<b>1.79</b>	<b>2.14</b>	<b>2.50</b>	<b>3.03</b>	<b>3.49</b>	<b>3.85</b>	<b>4.62</b>

For other characteristics see back →

Other information	To obtain further technical data call <b>green numer 800840012</b>		
Technical data sheet	Stiferite CLASS SH	Rev. 7 01/04/2010	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)											
			-	30	40	50	60	70	80	90	100	120		
Project thermal conductivity [UNI EN 12667]	Value determined at 20 °C and 50 % RH	$\lambda_U$ [W/mk]	-	<b>0,026</b> thickness 80 - 120										
Board density	Average value with facing characteristics	$\rho$ [Kg/m <sup>3</sup> ]	43											
Nominal thickness [EN 823]		$d_N$ [mm]	production from 30 to 120 mm											
Compressive strength [EN 826]	Value determined at 10% deformation	$\sigma_{10} \sigma_m$ [kPa]	-	200	200	200	200	200	200	200	200	200	200	200
Compressive strength [EN 826]	Value determined at 2% deformation	$\sigma_2$ [kPa]	-	8000	8000	9000	9000	7000	7500	7000	7000	7000	7000	
Dimensional stability under specified temperature and humidity [EN 1604]	48h ( $\pm 1$ ) a 70°C ( $\pm 2$ ) e 90% RH ( $\pm 5$ )	DS(TH) [% dimensions]	-	1	1	1	1	1	1	1	1	1	1	
		[% thickness]	-	6	5	4	3	3	3	3	3	3	3	
	48h ( $\pm 1$ ) a -20°C ( $\pm 3$ )	[% 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	$C_p$ [J/kg°C]	1475											
Water vapor diffusion resistance factor [EN 12086]	Value	$\mu$ (MU)	56 $\pm$ 2											
Water vapor diffusion resistance [EN 12086]	Value	$Z$ [m <sup>2</sup> /hPa]	8.0 $\pm$ 0.3											
Tensile strength perpendicular to faces [EN 1607]	Value	$\sigma_{mt}$ [kPa]	More than 70											
Deviation from flatness [EN 825]	Value	$S_{max}$ [mm]	$\pm 5$ for surface $\leq 0.75$ m <sup>2</sup>											
			$\pm 10$ for surface $> 0.75$ m <sup>2</sup>											
Flatness after one-sided wetting [EN 13165]	Value	FW [mm]	$\leq 10$											
Water absorption [EN 12087]	Total immersion for 28 days	WL [%]	Less than 2% <sub>w</sub>											
Water absorption [EN 1609]	Partial immersion	$W_{ip}$ [kg/m <sup>2</sup> ]	Less than 0.2											
Weight percentage of recycled material	The variation depends on the thickness	%	<b>3.00 – 2.70</b>											

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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 +120 °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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