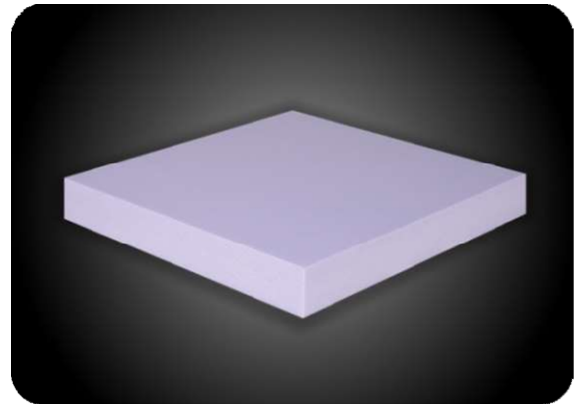




# X-FOAM HBD

EXTRUDED POLYSTYRENE BOARD  
[XPS - without HCFC - without HFC]



**X-FOAM® HBD** is a thermal insulation sheet made of indigo-coloured single-layer extruded polystyrene, with extrusion skin and 4 straight edges. The sheets declare compressive strength values  $\geq 300$  kPa, and have a width of 600 mm, length of 1250 mm and thicknesses available from 30 to 100 mm. **X-FOAM® HBD** is fire classified EUROCLASS E according to the European standard EN 13501-1. **X-FOAM® HBD** complies with the Minimum Environmental Criteria (CAM).

**APPLICATION WITH X-FOAM® HBD:** inverted roof not practicable, inverted roof practicable, inverted garden roof, pitched roof over ventilated membrane, residential floor, floor with heating system.



CHARACTERISTIC	STANDARD	UNIT	VALUES
<b>Thicknesses</b>	EN 823	mm	30 - 100
<b>Thickness tolerances</b> Th. < 50 mm Th from 50 mm to 100 mm	EN 823 EN 13164	mm	T1 -2/+2 -2/+3
<b>Length</b>	EN 822	mm	1250
<b>Width</b>	EN 822	mm	600
<b>Length (l) and width (b) tolerances</b>	EN 13164 EN 822	mm	l o b $\leq$ 1500: +/- 8 l o b > 1500: +/- 10
<b>Orthogonality tolerance (Sb)</b>	EN 824 EN 13164	mm/m	5
<b>Flatness tolerance (Smax)</b>	EN 825 EN 13164	mm/m	6
<b>Density</b>		kg/m <sup>3</sup>	33 +/- 10%
<b>Specific heat</b>		J/kgK	1450

CHARACTERISTIC	STANDARD	UNIT	VALUES	
<b>Thermal conductivity (<math>\lambda_D</math>) and Thermal resistance (<math>R_D</math>)</b>			$\lambda_D$	$R_D$
Thickness 30 mm	EN 13164 EN 12667	$\lambda_D$ : W/mK $R_D$ : m <sup>2</sup> K/W	0,031	0,97
Thickness 40 mm	EN 13164 EN 12667	$\lambda_D$ : W/mK $R_D$ : m <sup>2</sup> K/W	0,032	1,25
Thickness 50 mm	EN 13164 EN 12667	$\lambda_D$ : W/mK $R_D$ : m <sup>2</sup> K/W	0,033	1,52
Thickness 60 mm	EN 13164 EN 12667	$\lambda_D$ : W/mK $R_D$ : m <sup>2</sup> K/W	0,033	1,82
Thickness 80 mm	EN 13164 EN 12667	$\lambda_D$ : W/mK $R_D$ : m <sup>2</sup> K/W	0,032	2,50
Thickness 100 mm	EN 13164 EN 12667	$\lambda_D$ : W/mK $R_D$ : m <sup>2</sup> K/W	0,033	3,03
<b>Compressive stress at 10 % deformation</b>	EN 826	kPa	≥ 300 – CS(10/Y)300	
<b>Compressive creoo after 50 years with crushing ≤ 2 %</b>	EN 1606	kPa	CC(2/1,5/50)130	
<b>Dimensional stability at 70° C and 90% UR. Changes in thickness, length and width</b>	EN 1604	%	≤ 5 – DS(70,90)	
<b>Deformation behavior. Condition test 70° C, 168 h, 40 kPa</b>	EN 1605	%	≤ 5 – DLT(2)5	
<b>Water absorption by immersion (28 days)</b>	EN 12087	Vol %	≤ 0,7 – WL(T)0,7	
<b>Water absorption by diffusion (28 days)</b>	EN 12088	Vol %	≤ 3% – WD(V)3 sp.< 60 ≤ 2% – WD(V)2 sp. 60 ≤ 1% – WD(V)1 sp.> 60	
<b>Resistance to water vapor diffusion (<math>\mu</math>)</b> Th. 30 mm Th. 40 mm to 100 mm	EN 12086		MU 150 MU 100	
<b>Frost behavior (freeze - thaw alternation) after water absorption by long-term diffusion</b>	EN 12091	Vol %	≤ 1 – FTCD1	
<b>Reaction to fire</b>	EN 13501-1	Euroclasse	E	
<b>Limit temperature of use</b>		°C	+75	
<b>Closed cell average</b>		%	> 96	
<b>VOC (Volatile Organic Compounds)</b>	EN 16516 / ISO 16000	Class/Protocol	A+, Leed, Well, Bream	

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