

**ISOPLAN XPS is an insulating and waterproofing roofing board made of a flat (or cut-in) rigid XPS board torch-bonded in a factory controlled environment to a polymer-modified bituminous waterproofing membrane**

#### Production Range

ISOPLAN XPS is available lined with either an APP- or an SBS- polymer modified bituminous waterproofing membrane of choice for type of carrier, thickness or unit weight and surface finish (see technical data overleaf).

#### Main applications

Thermal insulation and base sheet waterproofing of most civil and industrial flat roofs and other constructions.

It can be installed in multi layer constructions for roofs with exposed waterproofing layers, with heavy duty protection, ballasted flat roofs, as well as roof gardens, pitched roofs, sheds, or prefab r.c. roofing elements.

#### Specification wording

The insulation and the waterproofing will consist of a layer of ISOLPARMA ISOPLAN XPS combining a flat Expanded Polystyrene foam board ... mm thick, and a polymer bitumen membrane (type ) .....

#### Sizes and packaging

ISOPLAN XPS boards are available in a standard size of 100 cm x 200 cm.

The boards have a head and side selvedge that may vary from 5 to 10 cm.

On request boards can be supplied with a width of 100 cm and variable length up to 360 cm, with head, tail and one side selvedge.

ISOPLAN XPS boards are delivered wrapped with PE foil on pallets

Pallet quantities vary with the thickness of the insulation material (see table).

XPS Thickness mm	Boards per pallet
30	39
40	30
50	24
60	20
80	15
100	12
120	10

## ISOPLAN XPS

#### Main applications



Pitched roofs below tiles or slates



Ballasted or paved flat roofs



Car park and ramps



Roofs garden

#### CE marking

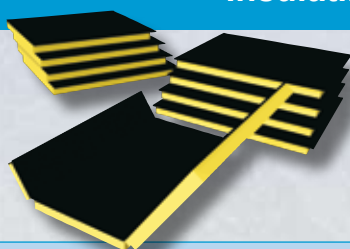


Extruded Polystyrene Foam Insulation (XPS)



Polymer Bitumen Membrane

Laboratory tests have compared the thermal transmittance values of standard flat boards, of rolls of scored boards and of cut-in boards. When correctly installed, all three types show comparable values except for minor variations.

**isolparma****RIGID FOAM****Insulating and Waterproofing Roofing Board****ISOPLAN XPS****TECHNICAL DATA SHEET OF THE XPS BOARD**

UNI EN 13164

Properties	Code	Norm	Description	XPS	Unit	
Density				30 ± 5%	kg/mc	
Declared heat conductivity	$\lambda_D$	UNI EN 12667	value measured at a mean temperature of 10 °C	mm 20	0,031	W/mK
				mm 30, 40	0,034	
				from mm 50 to 120	0,036	
Declared heat resistance	$R_D$	UNI EN 12667	related to thickness $R_D = d/\lambda_D$	mm 20	0,65	(m <sup>2</sup> K)/W
				mm 30	0,88	
				mm 40	1,18	
				mm 50	1,39	
				mm 60	1,37	
				mm 80	2,22	
				mm 100	2,78	
				mm 120	3,33	
Resistance to compression	CS (10/Y)	UNI EN 826	compression to 10% of thickness	mm 20	150	KPa
				mm 30	200	
				from mm 40 to 120	300	
Dimensional stability	DS(TH)	UNI EN 1604	test conditions: 48 h, 70 °C, 90% RH	linear variation	2	%
				variation in thickness	2	%
Fire rating	euroclass	UNI EN 13501-1		E		
Specific heat		UNI EN 12524		1200	J/(KgK)	
Resistance to water vapour diffusion	MU	UNI EN 12086	depending on surface	100 - 200	$\mu$	
Water absorption by diffusion	WD(v)5	UNI EN 12088	after 28 days, with moisture gradient 0%-100% between board sides and test temperature 50°C	$d_N = 50$ mm	< 3	% volume
				$d_N = 100$ mm	< 3	
Water absorption by immersion	WL(T)0,7	UNI EN 12087		> 0,5	% volume	
Thickness tolerance	T1	UNI EN 823		< 50	± 2,0	mm
				from 50 to 120	+3,0 / -2,0	
				> 120	+8,0 / -2,0	
Using temperature				75	°C	

**TECHNICAL DATA SHEET OF THE POLYMER BITUMEN MEMBRANES**UNI EN 13707  
UNI EN 13859-1

Properties	Norm	Description	TYPES OF MEMBRANE AND CARRIERS										Unit
			APP VV	APP VV	APP PE	APP PE	APP PE	APP PE	APP PE Min	APP PE Min	APP PE Min	SBS PE	
Mass	UNI EN 1849-1		2	3	-	-	3	4	3,5	4	4,5	3	Kg/m <sup>2</sup>
Thickness	UNI EN 1849-1		-	-	3	4	-	-	-	-	-	-	mm
Tensile Strength	UNI EN 12311-1	Longitudinal	300	300	400	400	400	400	400	400	400	400	N/5 cm
		Transversal	200	200	300	300	300	300	300	300	300	300	
Elongation at break	UNI EN 12311-1	Longitudinal	2	2	35	35	35	35	35	35	35	35	%
		Transversal	2	2	35	35	35	35	35	35	35	35	
Tear resistance	UNI EN 12310-1	Longitudinal	70	70	130	130	130	130	130	130	130	130	N
		Transversal	70	70	130	130	130	130	130	130	130	130	
Cold flexibility	UNI EN 1109		0	0	-5	-5	-5	-5	-5	-5	-5	-10	°C
Heat resistance	UNI EN 1110		110	110	110	110	110	110	110	110	110	90	°C

APP = Atactic Polypropylene ; SBS = Styrene butadiene styrene; VV = glass fibre reinforcement; PE = polyester reinforcement; MIN = slate finish

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