

PANEL EPS

EPS Coupled Insulation panels



Description

PANEL EPS is an insulating system in panels, put together and heat joined to a bituminous waterproof membrane. PANEL EPS panels are recommended for the isolation and waterproofing of covers in general, with the great convenience

of using a single product; in fact, they offer the high thermal insulation capacity of expanded polystyrene and the waterproofness of a bituminous membrane.

PANEL EPS are made of Expanded Sintered Polystyrene (EPS), with high thermal insulation, closed cell, self-extinguishing RF class E, in compliance with the requirements of European Directive 89/106/ECC and are produced considering and applying the EN 13163 product standards with the CE marking.

Areas of application

PANEL EPS panels fit any type of cover: flat, sloped and curved, unpaved and unballasted.

They are quick to apply and once installed, thanks to the overlapping flange, the cover is already waterproofed. After installing the PANEL EPS panels, a

second waterproofing membrane or the definitive roof covering can be applied.

Application

PANEL EPS should be anchored according to the slope of the laying area and local weather conditions (windy, cold weather etc.) using adequate mechanical fasteners, with suitable bonding systems or with appropriate bossed membranes. PANEL EPS offers good resistance to mechanical stress together with good thermal and acoustic insulation; the system's bituminous component is exclusively to protect the insulating element.

Laying of the next gripping layer must be carried out in total adhesion and on top of the underlying membrane.

Technical data bituminous waterproofing membrane

Technical characteristics	M.U.	Reference Norm	P	P	PA	PA	PA	V	V	Tol.	
Reinforcement type			Single strand polyester					Fiber glass			
Upper face finish			PE film		Mineral slate *			PE film			
Lower face finish			PE film								
Thickness	mm	EN 1849-1	3	4				2	3	±5%	
Weight	kg/m ²	EN 1849-1			3,5	4,0	4,5			±10%	
Cold flexibility	°C	EN 1109	NPD								
Heat stability	°C	EN 1110	120								
Heat stability after ageing	°C	EN 1296		110			110			-10°C	
Tensile strength L / T	N / 5 cm	EN 12311-1			400/300			300/200		-20%	
Elongation at break L / T	%	EN 12311-1			35/35			2/2		-15 -2	
Tear resistance L / T	N	EN 12310-1			130/130			70/70		-30%	
Dimensional stability	%	EN 1107-1			-0,3			NPD			
Loss of mineral slate	%	EN 12039				30					
Fire resistance		EN 13501-5	F ROOF								
Reaction to fire		EN 13501-1	F								
Tensile strength after ageing L / T	N / 5 cm	EN 1296			NPD					-20%	
Elongation at break after ageing L / T	%	EN 1296			NPD					-15	
Impermeability after artificial ageing	kPa	EN 1296			60						
Impermeability to water	kPa	EN 1928			60						

* It is impossible to guarantee the color uniformity on self protected mineral membranes as the suppliers of the same do not provide any also. All self protected mineral finished membranes undergo color variations over time due to the exposure to atmospheric agents. Normally these variations in time will gradually become uniform.

PANEL EPS technical specifications

(in compliance with current EN 13163 standards)

Characteristics	U.M.	CODE	80	100	120	150	Standard
Panel Size	m		1 x 2	1 x 2	1 x 2	1 x 2	
Available thicknesses	mm		30	30	30	30	
	mm		40	40	40	40	
	mm		50	50	50	50	
	mm		60	60	60	60	
	mm		70	70	70	70	
	mm		80	80	80	80	
	mm		90	90	90	90	
	mm		100	100	100	100	
	mm		110	110	110	110	
	mm		120	120	120	120	
	mm		130	130	130	130	
	mm		140	140	140	140	
Length tolerance	mm	Li	± 2	± 2	± 2	± 2	EN 822
Width tolerance	mm	Wi	± 2	± 2	± 2	± 2	EN 822
Thickness tolerance	mm	Ti	± 1	± 2	± 2	± 2	EN 823
Orthogonal tolerance	mm	Si	± 2/±1000	± 2/±1000	± 2/±1000	± 2/±1000	EN824
Flatness tolerance	mm	Pi	± 5	± 10	± 10	± 10	EN 825
Declared thermal conductivity	10°C W/mk	λ_D	0.037	0.036	0.035	0.033	EN 12667:2002
Declared heat resistance (thickness in metres / λ_D)	mK/W limit value	R_D	≥ 1.00	≥ 1.00	≥ 1.00	≥ 1.00	PrEN 12667 o EN 12939
Dimensional stability	%	DS(N)i	± 0.2	± 0.2	± 0.2	± 0.2	EN1603
Flexural strength	kPa	BSi	125	150	170	200	EN 12089
Compressive strength at 10% deformation	kPa	CS(10)i	80	100	120	150	EN 826
Tensile strength perpendicular to faces	kPa	TRi	150	-	-	-	EN 1607
Water absorption in the long term by total immersion	% Vol limit value	Wit	≤ 0,5	≤ 0,5	≤ 0,5	≤ 0,5	EN 12087
Water vapour transmission by diffusion	ng/Pa.s.m	Mui/Zi	47	30-70	30-70	30-70	EN 12086
Reaction to fire	class	RF	E	E	E	E	EN 11925- 2:2002
Bulk density	kg/m ³	-	16-18	18-20	20-22	23-25	EN 1602
Linear expansion coefficient	K-1	-	0.05x10 ⁻³	0.05x10 ⁻³	0.05x10 ⁻³	0.05x10 ⁻³	-

The data reported in this table refer to a bare, uncoupled panel.

The information on this data sheet is given according to the current state of our knowledge. Pluvitec reserves the right to change the specifications without notice. The buyer is responsible for establishing the suitability of the product for their purposes.