

COPERTHERM XPS

Thermal insulation made of extruded polystyrene foam coupled with bituminous membrane

DESCRIPTION: COPERTHERM XPS is a range of thermal insulation, available in rolls or panels, made by the coupling of extruded polystyrene foam (XPS) with waterproofing bitumen-polymer membranes. The insulating element is formed by single-layer panels consisting of extruded rigid foam of polystyrene, self-extinguishing and waterproof, with rough surface (without extrusion skin). The waterproofing membranes, obtained by distilled bitumen modified with polyolefin-based copolymers, provide excellent adhesion to the thermal insulation and perfect watertightness of joints.

INTENDED USE: COPERTHERM XPS is used in all applications in which is required the combination of thermal insulation and waterproofing: allows to quickly insulate and waterproof various types of roofs, also with complex geometry. The pre-coupling with bituminous membranes allows to carry out, in a fast and safe way, the waterproofing above heat-sensitive thermal insulations with reduced installation costs. The versions with "MINERAL" finish membranes, self-protected with slate flakes, are used in the insulation and waterproofing system under tiles or under discontinuous roofs in general.

AVAILABLE SIZES: Thickness 30 to 60 mm: COPERTHERM XPS is available in rolls (XPS strips 50 mm wide) and in panels.
Rolls length: thick. 30mm=8 m; thick. 40 mm=6 m; thick. 50 mm=5 m; thick. 60 mm= 4m.
Panels length: 1,2 m (only upon request length 1,8 m and 2,4 m).
For thickness over 60 mm, COPERTHERM XPS is available only in panels.

AVAILABLE BITUMINOUS MEMBRANE:

- Fiber glass reinforcement: Sintoglass 2.0 kg/m², Sintoglass 3.0 kg/m², Sintoglass 4.0 kg/m²
- Polyester reinforcement: Sintopol 3.0 kg/m², Sintopol 4.0 kg/m²
- Polyester reinforcement, self-protected by means of slate flakes: Sintopol MINERAL 3.5 kg/m², Sintopol MINERAL 4.0 kg/m², Sintopol MINERAL 4.5 kg/m²

USE AND APPLICATION: Subject to the type of substrate and the type of coverage, COPERTHERM XPS is fixed to the substructure according to one of the following ways:

- Hot gluing by means of melted oxidized bitumen;
- Cold application by means of bituminous mastic COPERMAST;
- New thermo-adhesive system by means of special membrane FIBERFLEX STRIP 3 mm: the upper face is covered by adhesive strips that are activated with the heat of the flame (torching);
- Mechanically fastened system properly chosen and designed.

Once installed on to the substrate, it is necessary to align and overlap carefully adjacent rolls or panels of COPERTHERM XPS: at this point it is possible to proceed with sealing of membrane overlaps by means of torching. In a multi-layer system the second layer of waterproofing bituminous membranes will be fully torched upon the sealed overlaps of COPERTHERM XPS.

THERMAL INSULATION PROPERTIES

PROPERTIES Standard reference EN 13164	TEST METHOD	UNIT	DECLARED VALUES							
Thickness tolerances	EN 823	d _N (mm)	Class T2 - Thickness 30 to 140: ± 1,5 mm							
Thickness	EN 823	d _N (mm)	30	40	50	60	80	100	120	
Thermal Conductivity declared (value determined by T medium 10 °C)	EN 12667	λ _D W/mK	0,032	0,033	0,034	0,034	0,035	0,035	0,036	
Thermal Resistance declared R_D	EN 12939	R _D =d/λ _D (m²K/W)	0,94	1,21	1,47	1,76	2,28	2,86	3,34	
Compression Strength (determined at 10% of deformation)	EN 826	σ ₁₀ 0 σ _m (KPa)	≥ 250	Level: CS (10/Y) 300 ≥ 300kPa						
Dimension stability at 70°C, 90% U.R.	EN 1604	%	Class: DS (TH) Thickness shift < 4% Dimensional shift < 1%							
Water absorption (total immersion for 28 days)	EN 12087	W _{lt} (%)	Level: WL(T)1,5 Absorption ≤1,5%							
Resistance to water vapour diffusion	EN 12086	μ (MU)	100 ÷ 50							
Reaction to fire (foam)	EN 13501-1 EN 11925-2	Euroclas s	E							

BITUMINOUS MEMBRANE PROPERTIES

PROPERTIES	TEST METHOD	UNIT	SINTOGLASS	SINTOPOL	SINTOPOL MINERAL	TOL
Reference standard			EN 13707	EN 13707	EN 13895-1	
Unit weight	EN 1849-1	kg/m²	2,0 - 3,0 - 4,0	3,0 - 4,0	3,5 - 4,0 - 4,5	±10%
Tensile strength (at break) L/T	EN 12311-1	N/5 cm	300/200	400/300	400/300	±20%
Elongation (at break) L/T	EN 12311-1	%	2/2	35/35	35/35	±15
Tear resistance (nail test) L/T	EN 12310-1	N	70/70	130/130	130/130	±30%
Resistance to static loading	EN 12730 (A)	kg	NPD	10	10	≥
Impact resistance	EN 12691	mm	NPD	700	700	≥
Dimensional stability	EN 1107-1	%	NPD	±0,3	±0,3	≤
Flexibility at low temperature	EN 1109	°C	-5	-5	-5	≤
Flow resistance at elevated temperature	EN 1110	°C	120	120	120	≥
Watertightness (method A)	EN 1928	kPa	60	60	60	≥
Resistance to water vapour diffusion (μ)	EN1931	--	20.000	20.000	20.000	--
Reaction to fire	EN 13501 -1	Class	E	E	E	--
Thermal conductivity	-	W/mK	0.2	0.2	0.2	--

