

Approved on 01.06.2016

PLASTFOIL[®] GEO

Polymeric PVC-membrane for waterproofing of underground constructions,

PRODUCT DESCRIPTION				
<p>PLASTFOIL[®] GEO — double polymer waterproofing membrane based on plasticized polyvinylchloride (PVC) of high quality, unreinforced, with bright signaling overlay. A great number of plasticizers ensure high elongation indexes at peak load conditions, which guarantees an ease roll flexibility and elasticity, convenience in installation and exploitation at low temperatures. It has high cold resistance properties (radius of curvature -45°C). This is highly effective material of anti-radon protection of constructions.</p>				
APPLICATION				
<p>It is intended to be used for waterproofing of underground constructions. It can be applied on any objects: for waterproofing of metro tunnels and also waterproofing of subbasements of buildings, including underground parkings. It also can be applied when organizing a disposal dump of hard domestic wastes. It is possible to use this material for waterproofing artificial reservoirs, swimming pools and also storage tanks for liquids.</p>				
CHARACTERISTICS/ADVANTAGES				
<i>Features</i>	<ul style="list-style-type: none"> • High durability (confirmed by conclusions of OJSC "RDA" and «All-Russian research Institute of hydrotechnics named after B.E. Vedeneeva»). • Absolute biostability (confirmed by conclusions of research and development center «Academy of public utilities named after K.D. Pamfilov» LLC). • Bright yellow signaling overlay for defects identification during installation. • Resistance to radon • High resistance to mechanical influences (including punctures). • Safety. Cold installation method. • Ecological safety (does not contain environmentally unfriendly components). • High installation rate, due to placing in single layer. • Light weight. • Installation capability at lower temperatures. • Suitable for recycling. • Available in different colors. • Standard of organization and technical regulations on the structure of one-layer waterproofing using PVC-membrane PLASTFOIL of transport road, railway tunnels, metro objects and other underground constructions are developed and confirmed (approved by Central scientific research institute of construction Research and development center «Tunnels and metropolitans», OJSC «MinskMetroProject») 			
<i>Approval/standards</i>	<ul style="list-style-type: none"> • Polymer membranes for waterproofing according to c EN 13967:2012 • Russian standard GOST 30547-97 Technical specifications 23.99.12.110-012-54349294-2016 Technical regulations on fire safety requirements №123-FL Control and estimation of production is carried out by the certified laboratories 			
<i>Standard sizes of rolls</i>	Thickness, mm	Width, m	Length, m	Weight, kg/m²
	1,5 (-5% / +10 %)	2,0 (-0,5% / +1,0%)	20,0 (-0% / +1,0 %)	2,0 (-5% / +10%)
	2,0 (-5% / +10 %)	2,0 (-0,5% / +1,0%)	20,0 (-0% / +1,0 %)	2,7 (-5% / +10%)

TECHNICAL DATA		
Product declaration	Tech. specifications 23.99.12.110-012-54349294-2016 and EN 13956	
Visible defects	none	EN 1850-2
Straightness, not more than, mm on 10m	30	EN 1848-2
Flatness, not more than, mm	10	EN 1848-2
Tensile strength, method B, MPa, not less than		EN 12311-2
- longitudinal	17	
- transversal	17	
Elongation at maximum load conditions, %, not less than		EN 12311-2
- longitudinal	300	
- transversal	300	
Tear strength (waterproofing polymer membrane), H, not less than	150	EN 12310-2
Full collapsibility at low temperatures, °C, not more than	-35	EN 495-5
Weld strength at tearing, N/50mm, not less than	300	EN 12316-2
Weld strength at break, N/50mm, not less than	600	EN 12317-2
Water resistance (72 hours at 0,3 Mpa)	Impervious to water	EN 1928 (B)
Resistance to hail, not less than m/s	25	EN 13583
Resistance to dynamic burst (impact resistance) - on a solid ground (in brackets on soft ground), mm, not less than	1,5 mm in thickness	2,0 mm in thickness
	700 (1000*)	1500 (2000*)
Resistance to static pressing, kg, not less than	20	EN 12730
Fire reaction	Class E	EN 13501-1
Aging under the influence of artificial climatic factors (UV exposure, not less than 8000 hours)	responds	EN 1297
Linear changes when heated 6h at 80°C, %, not more than	1,5	EN 1107-2
Water vapour transmission properties	$\mu = 20\ 000$	EN 1931

RELATED MATERIALS	
	<p>To ensure a high quality and durability of waterproofing of underground constructions it is recommended to use the following constituent parts:</p> <ul style="list-style-type: none"> • Waterstops • Injection connection fittings • Rondels • Membrane cleaner <p>Separation layer and geotextile</p>
APPLICATION DETAILS	
<i>Substrate quality</i>	<p>The surface of concrete base to be waterproofed should comply with the requirements of a standard «Concrete and reinforced concrete products for building»</p> <p>Metal surface should be degreased with cleaner before the adhesive is applied</p>
<i>Compatibility</i>	<p>Not compatible with materials containing bitumen, tallow, tar, oils, solvents. In order to prevent a direct contact to polymers of other groups, such as: foamed polystyrene, polyurethane, polyisocyanurate, phenol-containing foams it is recommended to apply a separation geotextile or glass-fiber mat layer.</p>
<i>Application method / tools</i>	<p>Installation procedure</p> <p>According to the valid installation instructions for mechanically fastened roof systems using PLASTFOIL PVC-membrane.</p> <p>Fixing method:</p> <p>Loosely laid and mechanically fastened. The roof waterproofing sheet is installed by loose laying and mechanical fastening in seam overlaps or independent from overlaps. An additional mechanical fastening of the membrane around the roof perimeter is obligatory. Technical department of the “Penoplex” company perform calculation on number of fasteners.</p> <p>Primary calculation can be made using a special program on the company website www.plastfoil.com.</p> <p>Welding method:</p> <p>Overlap seams are welded by electric hot welding equipment, such as manual hot air welding machines and pressure rollers or automatic hot air welding machines with controlled hot air temperature capability of minimum +600°C.</p> <p>Recommended type of equipment:</p> <p>Leister Triac, Dohle RION – for manual welding or some other similar types. Dohle LarOn, Leister Varimat (220W или 380W) – for automatic welding. Welding parameters including temperature, machine speed, air flow , pressure and machine settings must be evaluated, adapted and checked on site according to type of equipment and the climatic situation prior to welding. The effective width of welded overlaps should be equal to 20 mm - for manual welding, and 40 mm - for automatic welding.</p>
<i>Notes on application / Limitations</i>	<p>Installation works of the PVC-membrane must be carried out in strict adherence to the guidelines on application a polymeric PLASTFOIL[®] membrane on the roofs. Polymeric membrane may be applied in any climatic zones; herewith installation of the PVC-membrane should be performed at an ambient air temperature of -20°C to +50°C.</p> <p>Application of chemical constituent parts such as: contact adhesive/membrane cleaner is possible at an ambient air temperature not lower than +5°C. Please refer to the technical information on this product.</p>

PROTECTIVE MEASURES

Fresh air ventilation must be ensured when working (welding) in closed rooms. Local safety regulations must be observed.

TRANSPORTATION CLASS

The product is not classified as hazardous good for transport.

PACKAGING

Packing unit: 17 rolls for 1,5 mm in thickness; 14 rolls for 2,0 mm in thickness

Roll weight:
1,5 mm in thickness - 83,6 kg
2,0 mm in thickness- 110,8 kg

STORAGE

Rolls must be stored in horizontal position on pallets in original package protected from direct sunlight, rain, snow. Product does not expire during correct storage.

DISPOSAL

The material is recyclable. Disposal must be performed according to the local regulations. Please contact your local representative office for more information.