PRODUCT DATA SHEET

PENECOAT™ ELASTIC

Version, Penetron Hellas 08.27.2020

LIQUID-APPLIED POLYURETHANE WATERPROOFING MEMBRANE

DESCRIPTION

PENECOAT™ ELASTIC is a liquid-applied, highly permanent, elastic, cold applied and cold curing, one component polyurethane membrane, used for long-lasting waterproofing. PENECOAT™ ELASTIC cures by reaction with ground and air moisture and provides excellent mechanical, chemical, thermal and UV resistance properties.

RECOMMENDED FOR

- Rooftops
- Balconies and terraces
- Wet areas (under-tile) in bathrooms, balconies, kitchens, etc.
- Protection of polyurethane foam insulation
- Flowerbeds and planter boxes
- Concrete constructions (bridge-decks, tunnels, etc.)
- Traffic decks (pedestrian and vehicular)
- Bitumen and asphalt felts and PVC membranes

ADVANTAGES

- Simple application (roller or airless spray)
- When applied polymerizes and forms a seamless, waterproofing membrane without joints
- Resistant to water and frost. Leaves no bare spots or puddles
- Provides resistance to root penetration (green roof application)
- Crack-bridging up to 2 mm thick, even at 14 ºF (-10 ºC)
- Provides water vapor permeability (allows the substrate to “breathe”)
- Provides exceptional surface adherence without any additional anchoring
- Excellent resistance to weather and sunlight (UV radiation)
- Maintains its mechanical properties over a temperature span of -22 ºF to 194 ºF (-30 ºC to 90 ºC). No seasonal softening or hardening occurs
- The waterproofed surface can return to service
- The membrane can be easily repaired locally within minutes, in case it gets mechanically damaged
- Low cost

TECHNICAL CHARACTERISTICS

Type	Prepolymerized polyurethane resin
Color	White
Rain stability time	4 hours [68 ºF (20 ºC), 50% RH]
Light pedestrian traffic time	12 hours [68 ºF (20 ºC), 50% RH]
Final curing time	7 days [68 ºF (20 ºC), 50% RH]
Chemical properties	Good resistance against acidic and alkali solutions (5%), detergents, seawater and oils

Technical characteristics of PENECOAT™ ELASTIC

Characteristic	Test Result	Test Method
Elongation at break	> 800 %	ASTM D 412 / DIN 52455
Tensile strength	> 4 N/mm^2	ASTM D 412 / DIN 52455
Water vapor permeability	> 25 gr/m^2/day	ISO 9932:91
Resistance to mechanical damage by static impression	High Resistance (Class: P3)	EOTA TR-007
Resistance to mechanical damage by dynamic impression	High Resistance (Class: P3)	EOTA TR-006
Resistance to water pressure	No Leak (1 m water column, 24 h)	DIN EN 1928
Adhesion to concrete	> 2,0 N/mm^2 (concrete surface failure)	ASTM D 903
Crack bridging capability	Up to 2 mm crack	EOTA TR-008
Hardness (Shore A scale)	65	ASTM D 2240 (15")
Resistance to root penetration	Resistant	UNE 53420
Solar reflectance (SR)	0.87	ASTM E903-96
Solar emittance (ε)	0.89	ASTM E408-71
Thermal resistance [176 ºF (80 ºC) for 100 days]	Passed - No significant changes	EOTA TR-011
UV accelerated ageing (in the presence of moisture)	Passed - No significant changes	EOTA TR-010
Resistance after water ageing	Passed	EOTA TR-012
Hydrolysis (5% KOH, 7 days cycle)	No significant elastomeric change	INHOUSE LAB
Construction material fire class	B2	DIN 4102-1
Resistance to flying sparks and radiating heat	Passed	DIN 4102-7
Reaction to fire	Class E, Broof(t1), Broof(t4)	EU Norm
Service temperature	-22 ºF to 194 ºF (-30 ºC to 90 ºC)	INHOUSE LAB
Solid content	~85 %	INHOUSE LAB
Shock temperature (20 min)	392 ºF (200 ºC)	INHOUSE LAB

All data are average values obtained under laboratory conditions. Impractical use, temperature, humidity and absorption of the substrate may influence the above given values.

DIRECTIONS FOR USE

Surface Preparation: Surface must be clean, dry and sound, free of any contamination, which may harmfully affect the adhesion of the membrane. Maximum moisture content should not exceed 5%. Old, loose coatings, dirt, fats, oils, organic substances and dust need to be removed by a grinding machine. Possible surface irregularities need to be smoothened. Any loose surface pieces and grinding dust

need to be thoroughly removed. New concrete structures need to dry for at least 28 days.Carefully repair and seal existing cracks and joints, before the application, for long lasting waterproofing results. Contact PENETRON HELLAS S.A. for additional information, regarding your project.

Priming:

Porous surfaces: Prime absorbent surfaces, like concrete, cement screed or wood with PENEPRIMER™ – PU primer. Alternatively, dilute PENECOAT™ ELASTIC in 10 – 15% (by volume) PENECLEANER™ A PLUS and apply as mentioned. Apply PENECOAT™ ELASTIC after approx. 2 – 3 hours (while the surface is "tacky").

Non-porous surfaces: Prime non-absorbent surfaces, like metal, ceramic tiles, old coatings and "green" concrete, with PENEPOX™ – W primer and apply PENECOAT™ ELASTIC after approx. 12 hours (while the surface is "tacky").

Allow the primer to cure, according to its technical instructions.

Application: Apply PENECOAT™ ELASTIC on the primed surface, while the surface is wet ("tacky") and lay it out by a roller or a brush, until all surface is covered. If desired, you can use airless spray.

Reinforce always with FABRIC at difficult areas (in the first layer of wet product), such as wall-floor connections, chimneys, pipes, waterspouts (siphon), etc. While wet, put a correct-size piece of FABRIC on PENECOAT™ ELASTIC, press it to soak and then apply enough amount of PENECOAT™ ELASTIC, till saturation of the FABRIC.

Contact PENETRON HELLAS S.A.
for detailed application instructions, regarding FABRIC.

After 12 hours (not later than 36 hours), apply another layer of the PENECOAT™ ELASTIC. If necessary, apply a third layer of the PENECOAT™ ELASTIC.

NOTE: Reinforcement of the entire surface with the PENETRON® FABRIC is highly recommended. Use 2 – 4 in (5 – 10 cm) stripe overlapping. If PENECOAT™ ELASTIC is applied without FABRIC reinforcement, we recommend a three-layer application.

Finishing: For a color-stable and chalking-free surface, apply one or two layers of the PENECOAT™ PU – L over PENECOAT™ ELASTIC. The application of PENECOAT™ PU – L is especially required, if a dark final color is desired (e.g. red, grey, green, etc.). If a medium traffic, wear-resistant surface is desired (e.g. balconies, terraces), apply two layers of PENECOAT™ PU – L. If a heavy traffic, abrasion-resistant surface is desired (e.g. car parking), apply one or two layers of PENECOAT™ PU – H after sprinkling sufficient amount of proper grade quartz sand (0,1 to 0,4mm particle size). The coverage with quartz sand should be made in third layer (sacrificial layer) of PENECOAT™ ELASTIC while the surface is still fresh, where the indicative consumption of PENECOAT™ ELASTIC is 0,5 kg/m^2.

NOTE: PENECOAT™ system is slippery when wet. In order to avoid slipperiness during wet days, sprinkle suitable aggregates (QUARTZ SAND MIX) onto the still wet coating, to create an anti-slip surface.

Coverage:

Approx. coverage of primer on non-porous surface

PENEPRIMER™ – PU	0.05 lb/ft^2 (0.25 kg/m^2)
PENECOAT™ ELASTIC/10–15% (by vol.) PENECLEANER™ A PLUS	0.1 lb/ft^2 (0.5 kg/m^2)

Approx. coverage of primer on non-porous surface

PENEPOX™ – W	0.03 – 0.04 lb/ft^2 (0.15 – 0.20 kg/m^2)

Approx. coverage of PENECOAT™ ELASTIC is 0.12 – 0.14 lb/ft^2 (0.6 – 0.7 kg/m^2) per layer. Indicatively, for two layers 0.25 – 0.31 lb/ft^2 (1.2 – 1.5 kg/m^2) is recommended. The use of FABRIC is expected to double the PENECOAT™ ELASTIC consumption per ft^2 (m^2).

NOTE: In case of certification according to European Technical Assessment (ETA) for PENECOAT™ ELASTIC, FABRIC 110P is used as reinforcing fabric and the consumption is:

Working life	W2 (10 years)	W3 (25 years)
Minimum layer thickness	1,6 mm	2,9 mm
Minimum quantity consumed	2,4 kg/m^2	4,1 kg/m^2

The European Technical Assessment (ETA) is valid for a period of 10 years (W2) and 25 years (W3) depending on the applied thickness.

SPECIAL CONSIDERATIONS

DO NOT apply over 0.6 mm thickness (dry film) PENECOAT™ ELASTIC per layer. For the best results, the temperature during application and cure should be between 41 ºF and 95 ºF (5 ºC and 35 ºC). Low temperatures may cause retardation in curing, while higher temperatures may accelerate the process. High humidity may affect the final finish.

Always stir PENECOAT™ ELASTIC well before use.

Available colors of PENECOAT™ ELASTIC are white, grey, red and green.

Contact PENETRON HELLAS S.A. for specific instructions, regarding your project.

PACKAGING

PENECOAT™ ELASTIC is available in 55 lb (25 kg), 13 lb (6 kg) and 2 lb (1 kg) pails.

STORAGE / SHELF LIFE

When stored in a dry and cool place in their original, unopened containers, shelf life is 9 months. Protect the material against moisture and direct sunlight. Storage temperature should be between 41 – 96 ºF (5 – 30 ºC).

SAFE HANDLING INFORMATION

Wear appropriate eye, skin and breathing protection, when using this product. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. KEEP OUT OF REACH OF CHILDREN. For further information please refer to Safety Data Sheet. PENETRON HELLAS S.A. has recently updated Safety Data Sheet on the safe use of PENETRON® products. Each Safety Data Sheet contains health and safety information for the protection of your employees and your customers.

CERTIFICATION

PENECOAT™ ELASTIC is tested by the German state testing institute for construction materials, MPA-Braunschweig, according to the European Union Directive for liquid-applied roof waterproofing kits ETAG 005 and was found conforming.

PENECOAT™ ELASTIC is certified by the German state Institute for construction techniques DIBt–Berlin with the European Technical Approval (ETA) and with the CE-mark and certification, according to the EOTA (European Organization of Technical Approval).

PENECOAT™ ELASTIC is tested and approved by various laboratories in different countries around the world.

CE

PENETRON HELLAS A.B.E.E. Θρακομακεδόνων 50, Αχαρνές, 136 79, Ελλάδα Τηλ. 2102448250 / Fax: 2102476803 / Email: info@penetron.gr 20 PENECOAT ELASTIC 14.026-17-01D190320-04		
European Technical Approval: ETA-20/0012 DIBt		
ETAG 005 Part 6: “Specific stipulations for kits based on polyurethane”, used as EAD according to Article 66 Paragraph 3 of Regulation (EU) No 305/2011.		
Minimum layer thickness	1.6 mm	2.9 mm
Minimum quantity consumed:	2.4 kg/m^2	4.1 kg/m^2
Working life	W2 (10 years)	W3 (25 years)
Climate Zones	M and S (moderate and severe climatic)	
Resistance to mechanical damage (perforation) (compressible and non-compressible substrates)	P1 to P3 (from low to normal)	P1 to P4 (from low to highl)
Roof slopes	S1 to S4 (< 5º to > 30º)	
Lowest surface temperature	TL3 (-20 ºC)	TL4 (-30 ºC)
Highest surface temperature	TH4 (90 ºC)	
Use category related to BWR 3	I/A 3, S/W 2	
External fire performance EN 13501-5	FROOF	
Reaction to fire EN 13501-1	Class E	
Water vapour diffusion resistance factor μ	μ~1830	
Watertightness	pass	
Statement on dangerous substances	The product does not contain dangerous substances specified in TR 034 (Version March 2012)	
Resistance to wind loads	≥ 50 kPa	

WARRANTY - DISCLAIMER

PENETRON HELLAS S.A. warrants that its products are manufactured under certified ISO Standard procedures, are of excellent quality and shall be free from material defects and contain all components in their proper proportion. Should any of the products be proven defective, the liability to PENETRON HELLAS S.A. shall be limited to replacement of the material proven to be defective, since the standard application procedures have been met and the suitability of the product for the particular application have been proven. PENETRON HELLAS S.A. makes no warranty as to merchantability of fitness for a particular purpose. User, after contacting the distributor of the product, shall determine the suitability of the product for his intended use and assume all risks and liability in connection therewith. While every care has been taken, the information provided in this product's data sheet make no part of any contract. All recommendations, technical data and test data contained in this product's data sheet are based upon the results of control laboratory tests or in actual field tests. However, PENETRON HELLAS S.A. makes no warranty of any kind, concerning this data. In any case, this data are given in good faith based in the PENETRON HELLAS S.A. experience, till the publication of this sheet. Due to variance in storage, handling and applications of the materials, PENETRON HELLAS S.A. accepts no liability for the results obtained. It is suggested that potential users try small applications to determine the suitability of each individual product for their specific requirements. The users should always refer to the most recent edition of the product's data sheet. PENETRON HELLAS S.A. may particularly differentiate its versions of the product's data sheet compared with those of PENETRON INTERNATIONAL LTD or respective PENETRON companies worldwide. These changes are due to text formatting, different application weathering and procedures or different product names and aim at the optimal consumer information.

PENETRON HELLAS S.A.
50, THRAKOMAKEDONON AV.
GR 136 79 ACHARNES
TEL: +30 210 2448250 - FAX: +30 210 2476803
www.penetron.gr - info@penetron.gr