

DESCRIPTION

PENECOAT™ HYPER ELASTIC BLACK is a two component, solvent-based, bitumen extended polyurethane membrane, for long lasting waterproofing, ideal for surfaces to be covered. PENECOAT™ HYPER ELASTIC BLACK is a high elasticity and permanent, fast curing, cold applied and cold curing membrane. PENECOAT™ HYPER ELASTIC BLACK consists of elastomeric, hydrophobic polyurethane resins, with chemically polymerized bitumen (bitumen rubber) that ensure strong bonding to absorbent substrates, strong resistance to mechanical stresses, abrasion chemicals and detergents. PENECOAT™ HYPER ELASTIC BLACK cures by reaction with the reaction of the two components.

RECOMMENDED FOR

- ▶ Waterproofing of roof decks and podiums
- ▶ Waterproofing of walls
- ▶ Beneath roof tiles and highly moisture areas, like bathrooms, roofs, etc.
- ▶ Roof gardens, flowerbeds and planter boxes
- ▶ Waterproofing of asphalt and asphalt felts, EPDM membranes
- ▶ Joint sealant for horizontal movement with medium traffic and for construction joints
- ▶ Foundations
- ▶ Retaining Walls
- ▶ Roofs with inverted insulation

ADVANTAGES

- ▶ Easy to apply
- ▶ Uniform membrane with no joints, when applied
- ▶ Resistant to water
- ▶ Resistant to frost
- ▶ Provides resistance to root penetration (green roof application)
- ▶ Fast curing
- ▶ Uniform thickness. Zero bubble formation
- ▶ Low modulus of elasticity, which ensures excellent crack bridging
- ▶ Excellent thermal resistance. No softening occurs
- ▶ Retains its mechanical properties at temperature range -30 °C to 90 °C (-22 °F to 194 °F)
- ▶ Excellent bonding on almost every substrate
- ▶ The surface can return to service
- ▶ Resistance to detergents, oils, sea water and domestic chemicals
- ▶ The membrane can be repaired, if a mechanical damage occurs
- ▶ No need for blowtorch, during the application
- ▶ Mixing ratio 1:1 (by volume)

TECHNICAL CHARACTERISTICS

Characteristics	Test Result	Test Method
Composition	Bitumen extended polyurethane	
Color	Black	
Density	A: 0,98 kg/L (61,2 lb/ft ³) B: 1,02 kg/L (63,7 lb/ft ³)	
Elongation at break	2400%	ASTM D 412
Tensile strength	> 1,0 N/mm ²	ASTM D 412
E-modulus	~ 1,0 N/mm ²	ASTM D 412
Tear resistance	20 N/mm	ASTM D 624
Puncture Resistance	290 N	ASTM E 154
Resistance to water pressure	No leak at 3 bar (30 m water column)	DIN 16726
Resistance to root penetration	Resistant	CEN/TS 14416 EX:2014
Concrete bonding	1,2 N/mm ²	EN 1542
Hardness (Shore A Scale)	35	ASTM D 2240 (15")
Permeability to CO ₂	0,73 g/m ² d	EN 1062-6
Water vapor permeability	4,32 g/m ² d	EN ISO 7783
Capillary absorption and permeability to water	0,012 kg/m ² h ^{0,5}	EN 1062-3
Thermal resistance (80 °C for 100 days)	Passed - No significant change	EOTA TR-011
Hydrolysis (5% KOH, 7 days cycle)	No significant elastomeric change	Inside Lab Test
Temperature resistance	-30 °C to 90 °C (-22 °F to 194 °F)	Inside Lab Test
Thermal shock	250 °C (482 °F)	Inside Lab Test
Solid content	~85 %	Inside Lab Test
Workability	30 min	Conditions: 20 °C (68 °F), 50% RH
Skin formation time	2-4 hours	
Light pedestrian traffic time	18-24 hours	
Final curing time	7 days	

Excellent resistance in acidic and alkali solutions (5%), detergents, oils and sea water.

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: The surface needs to be clean, dry and sound, free of any contamination, which may harmfully affect the adhesion of the primer. Maximum moisture content should not exceed 5%. Compressive strength of the substrate must be at least 25 MPa and surface strength of the concrete must be at least 1,5 MPa. Old, loose coatings, dirt, fats, oils, organic substances and dust need to be removed by a grinding machine. Possible surface irregularities need to be smoothed. Any loose surface pieces and grinding dust need to be thoroughly removed. New concrete must be cured for at least 28 days prior to application.

NOTE: Careful and thorough preparation of the surface is important for excellent results and high durability. Do not wash surface with water or ensure good drying before application.

Mixing: Mix thoroughly PENECOAT™ HYPER ELASTIC BLACK A, before use, with a mixing drill for up to 3 min. Then, mix equal quantity of PENECOAT™ HYPER ELASTIC BLACK A and PENECOAT™ HYPER ELASTIC BLACK B and mix thoroughly with a mixing drill, at low speed, for 3-5 min. Apply the mixed material immediately.

Mixing ratios: Mix equal quantity of PENECOAT™ HYPER ELASTIC BLACK A and PENECOAT™ HYPER ELASTIC BLACK B at 1:1 ratio (by volume).

NOTE: BLACK A and BLACK B components must be mixed thoroughly, until a uniform mixture is form. Attention must be paid in the bottom and the walls of the container.

Priming: Prime the porous substrates, such as concrete, mortars and wood, with PENEPRIMER™ PU. For non-

primer to cure, according to its technical guidance. No primer is required for good quality concrete.

Application: Apply PENECOAT™ HYPER ELASTIC BLACK A+B by brush, spike trawler or nap roller, until the surface is fully covered.

For demanding applications or substrates with tiles or cracks, reinforcement of the entire surface with the FABRIC geotextile is recommended (in the first layer of wet product). After 12-24 hours (but not later than 72 hours), apply a second coat of PENECOAT™ HYPER ELASTIC BLACK A+B. If PENECOAT™ HYPER ELASTIC BLACK A+B is about to be covered by quarry tiles, apply a third layer of PENECOAT™ HYPER ELASTIC BLACK A+B, with indicative consumption 0,5 kg/m² and disperse dry quartz sand (QUARTZ SAND MIX grade 0,4-0,8 mm) over the surface, until the surface is fully covered, while the last coat is still damp. The quartz sand dispersion will form a bonding bridge for the thinset ceramic tile.

NOTE: It is highly advised to apply the product within its workability time margins [30 at 20 °C (68 °F)].

COVERAGE

PENECOAT™ HYPER ELASTIC BLACK coverage is at least 1,1 – 1,5 L/m² (0,02-0,04 gal/ft²), applied in one or two layers. The use of FABRIC is expected to double the PENECOAT™ HYPER ELASTIC BLACK A+B consumption per m² (ft²).

This coverage is based on practical application by roller onto a smooth surface in optimum conditions. Surface porosity, temperature, humidity, application method and finishing can alter this consumption.

SPECIAL CONSIDERATIONS

For the best results, the temperature application and curing should be between 5 °C to 35 °C (41 °F to 95 °F). Low temperatures cause curing retardation, while high temperatures speed up curing. High humidity may affect the final finish.

PENECOAT™ HYPER ELASTIC BLACK is a slippery material, when wet. To lower slip, disperse quartz aggregate sand over the surface, while fresh, to create an anti-slip surface.

PENECOAT™ HYPER ELASTIC BLACK should not be exposed to UV radiation. PENECOAT™ HYPER ELASTIC BLACK should be protected.

Careful compliance with the time margins is essential for an excellent result.

Contact PENETRON HELLAS S.A. for further information, regarding your project.

PACKAGING

PENECOAT™ HYPER ELASTIC BLACK is available in 1+1 L (0,26+0,26 gal), 5+5 L (1,3+1,3 gal) and 20+20 L (5,3+5,3 gal) containers.

STORAGE / SHELF LIFE

PENECOAT™ HYPER ELASTIC BLACK can be stored for 12 months in its original packing (unopened container) at 5 °C – 35 °C (41 °F – 95 °F) in a cool, dry place. Keep away from wet areas and direct sunlight.

SAFE HANDLING INFORMATION

Contains isocyanates. Avoid skin and eye contact. If contact is made, flush areas with lots of water and seek medical advice. Protective gloves, mask and goggles should be worn. 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. KEEP OUT OF REACH OF CHILDREN.

CERTIFICATION



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EN 1504-2

PENECOAT HYPER ELASTIC BLACK

Surface protection product – coating:

Protection against ingress [Method 1.3]

Linear shrinkage: NPD

Coefficient of thermal expansion: NPD

Adhesion by cross-cut test: NPD

Permeability to CO₂: S_D>50m

Water vapour permeability: Class I: S_D<5m

Capillary absorption and permeability to water: ω < 0,1
kg/m².h^{0,5}

Thermal compatibility: NPD

Resistance to thermal shock: NPD

Chemical resistance: NPD

Crack bridging ability: NPD

Adhesion strength by pull-off test: ≥ 0,8 (0,5) N/mm²

Reaction to fire: Class F

Slip / skid resistance: NPD

Behavior after artificial weathering: NPD

Antistatic behavior: NPD

Adhesion on wet concrete: NPD

Dangerous substances: According 5.3

Resistance to root penetration: Resistance

WARRANTY - DISCLAIMER

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