



POLYMAT® Base HM



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EN13967 and EN 13491

Polymeric Waterproofing membranes of PVC compound
Polymeric PVC waterproofing membrane, homogenous for high elasticity.
Complies with EN 13967 (Basement) and EN 13491 (Tunnel).

POLYMAT Base HM Description

POLYMAT Base is a polymeric membrane made from a long-term proven PVC-P compound in a most modern Co-Extrusion process, features high elongation for elasticity to absorb structural movements.

Thickness (mm)	1.20	1.50	2.00	2.20
Width (m)	2.10	2.10	2.10	2.10
Length (m)	25	20	20	20
Colour (*)	Top: RAL 1021 cadmium yellow, Bottom: black			

(*) Topside colour : RAL 9002 grey white and other RAL colours on demand
On demand: **POLYMAT Base HM-UV** with high UV resistant top-layer (RAL 9016 traffic white, reflective)

POLYMAT Base HM Applications

POLYMAT Base HM as a single-ply subsoil membrane for waterproofing of Basements (EN 13967) as well as Tunnels and Vaults (EN 13491), building structures & surfaces below ground.

- GEO-membrane applications: Lining, protection & separation membrane on various substrates for civil engineering, infrastructure and landscaping projects
- Other covered or exposed applications (**POLYMAT Base HM-UV**), where high elongation for elasticity is required

POLYMAT Base HM Advantages

- High mechanical resistance
- Mechanical damages during application easy detectable through yellow signal layer
- Enables double welded seams for air pressure testing of tightness
- Enables welding to PVC water-stops, **POLYMAT Base HM** main component in compartment systems
- High resistance to puncturing
- Resistant to root penetration
- High resistance to hot-cold temperature cycles
- Various RAL colors available on demand
- High aging resistance, well proven formula, developed for 40 years
- Fast application: Standard lengths of 20-25 m1 and 2.10 – 2.15 m1 widths, up to 60 m1 roll length on demand
- Specific thicknesses up to 3.20 mm: on demand
- Customized sheet sizes of up to 1000 m² and larger are available for any project (prefabricated drop-in panels)

POLYMAT Base HM Installation

POLYMAT Base HM membrane seams are connected fast and secure with hot-air and wedge welding automatic and hand-held machines by trained applicators. For detail solutions and the best application methods for all designs, consult the application technicians of **BITUMAT** or **BITUMAT** distributors for field assistance.

BITUMAT provides system membranes for all waterproofing requirements, to guarantee the best and optimized solution for all constructions, building and civil engineering projects.

The following ranges of PVC-P system membranes are available (as customized sheets as well):

- **POLYMAT Roof UV-R + HM:** High UV resistant & fire-retardant membrane for exposed roofing (reflective)
- **POLYMAT Roof -R + HM:** System membrane for inverted & ballasted roofs, roof gardens (green roofs)
- **POLYMAT TN (Tunnel):** Membrane for Tunnels and covered vaults (with Signal layer)
- **POLYMAT Pool:** Classic Swimming Pool membranes and Pond Liners in **sky blue** and various RAL colors
- **POLYMAT Pota:** Membrane certified for potable Water tanks, Reservoirs and Containers for var. liquids



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Specification & Properties

EN13967 and EN 13491

Technical Properties		
Thickness / Mass per unit area (*)	EN 1849 – 2 EN 1849 – 2 EN 1849 – 2 EN 1849 – 2	1.20 (-5/+10%) mm / 1.58 kg/m ² (-5/+10%) 1.50 (-5/+10%) mm / 1.98 kg/m ² (-5/+10%) 2.00 (-5/+10%) mm / 2.66kg/m ² (-5/+10%) 2.20 (-5/+10%) mm / 2.92 kg/m ² (-5/+10%)
Straightness	EN 1848 – 2	≤ 75 mm / 10 m
Visible defects	EN 1850 – 2	Pass
Tensile strength	ISO R 527 – 1/3/5 ISO R 527 – 1/3/5	Machine: ≥ 17 (±2.0) N / m m ² Cross: ≥ 17 (±2.0) N / mm ²
Elongation	ISO R 527 – 1/3/5 ISO R 527 – 1/3/5	Machine: ≥300 % Cross: ≥ 300 %
Elastic Modulus E 1-2 (N/mm ²) MD (N/mm ²) CD (N/mm ²)	ISO 527-1/3	≤ 20 ≤ 20
Behaviour under Hydrostatic Pressure 5 bar/72 hr (10 bar/24 hr)	EN 1928 (DIN 16726-5.11)	No Leaking
Tear strength	ISO 34 Method B; V=50 mm/min ISO 34 Method B; V=50 mm/min	Machine: ≥ 42 kN/m Cross: ≥ 42 kN/m
Resistance to tear (nail shank)	EN 12310 – 1	≥ 400 N (1.20 + 1.50 mm) ≥ 500 N (1.80 + 2.00 + 2.20 mm)
Static puncture: 1.50 + 2.00 mm thickness Static puncture: 2.00 + 2.20 mm	EN ISO 12236 EN ISO 12236	1.75 (± 0.25) kN 2.35 (± 0.25) kN
Resistance to static load	EN 12730 (Method B, 24h / 20kg)	≥ 20 kg
Resistance to impact : 1.50 + 2.00 mm Resistance to impact : 2.00 + 2.20 mm	EN 12691 : 2005 EN 12691 : 2005	≥ 450 mm ≥ 750 mm
Joint strength: 1.50 + 2.00 mm Joint strength: 1.50 + 2.00 mm	EN 12317 – 2 EN 12317 – 2	≥ 880 N / 50mm ≥ 1100 N / 50mm
Burst strength	EN 14151 D=1.0 m	≥50 %
Thermal expansion	EN 14151 D=1.0 m	190x10 ⁻⁶ (±50x10 ⁻⁶) 1/K
Low temperature behaviour (**)	ASTM D 696-91	≤ - 20°C
Weathering	EN 12224, 350 MJ/m ² , ISO 527-3/5/100	Remaining tensile strength and elongation: ≥ 65 %
Chemical resistance	EN 14414: 2004-08; ISO 527-3/5 EN 14414: 2004-08; ISO 527-3/5 EN 14414: 2004-08; ISO 527-3/5	A (hydrolyses underacid conditions): Change in elongation: ≤ 10 % B (hydrolyses underalkaline conditions): Change in elongation: ≤ 10 % D (artificialdisposal water): Change in elongation: ≤ 10 %
Water tightness to liquid water	EN 1928 B (24h / 60kPa)	Pass
Durability of water tightness against ageing	EN1296(12 weeks) EN 1928 B (24h / 60kPa)	Pass
Durability of water tightness against chemicals	EN 1847 (28d/+23°C) EN 1928 B (24h / 60kPa)	Pass
Accelerated ageing in an alkaline environment, tensile strength	(24 weeks / +90°C) EN 12311 – 2	Pass
Water vapour transmission	EN 1931 (+ 23°C / 75% r. h)	18 000 μ (+ / - 5000)
Resistance to root penetration	EN 14416:2002	Pass
Reaction to fire	EN ISO 11925-2	Class E

(*) Tolerances as per EN-DIN 13956 &UEAtc directive;

(**) Not tested at lower temperatures



Storing

POLYMAT membranes are recommended to be stored out of direct sunlight and on pallets.



Quality Assurance

The products originating from the **BITUMAT COMPANY LIMITED** facility are manufactured under a management system independently certified to conform to the requirements of ISO 9001:2015, specified to EN 13956.



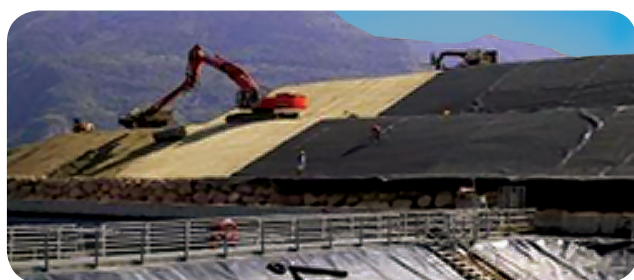
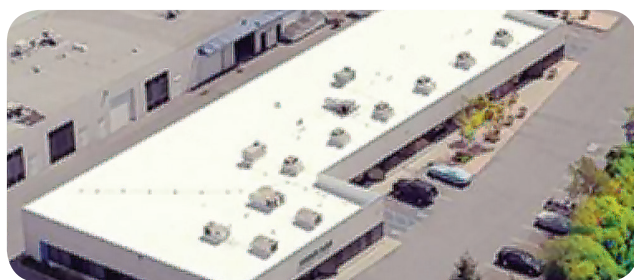
Safety

BITUMAT products contain no asbestos, tar or any other dangerous substances. When adhering to **BITUMAT** installations manuals, **POLYMAT** membranes do not damage the environment are not classified as hazardous goods for all transports.



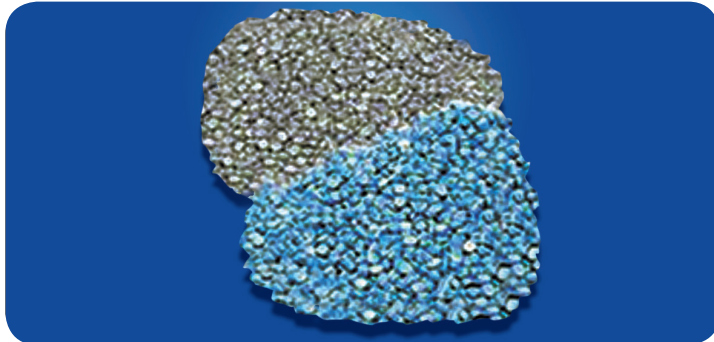
Note

Advisory service, where provided, does not constitute supervisory responsibility.
For additional information contact the **BITUMAT COMPANY LIMITED** Sales & Application Department.



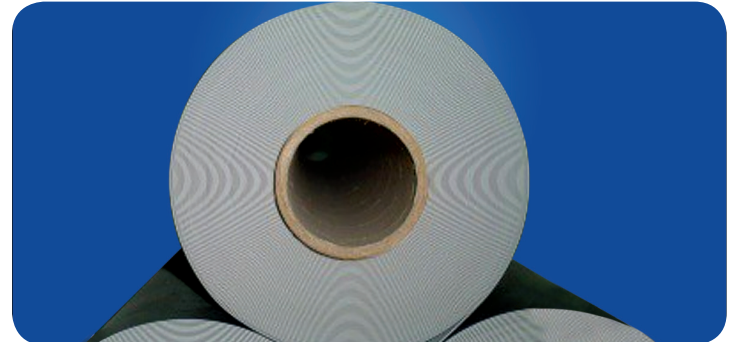


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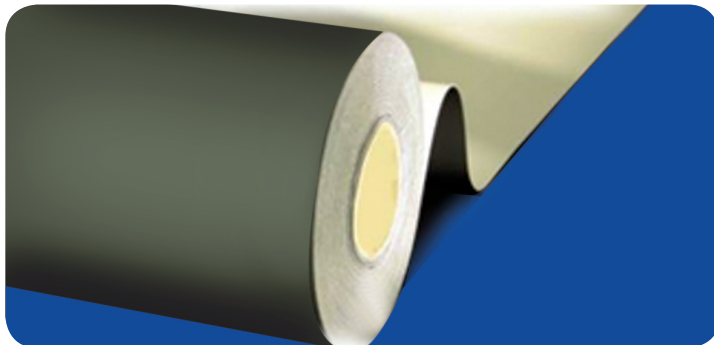
Roofing (Low slope - Flat roofs) MS1

- MS 1.1. Exposed roofs
- MS 1.2. Inverted roofs
- MS 1.3. Reflective roofs
- MS 1.4. Solar roofs
- MS 1.5. Vegetated roofs (Green roofs)
- MS 1.6. Roof refurbishments



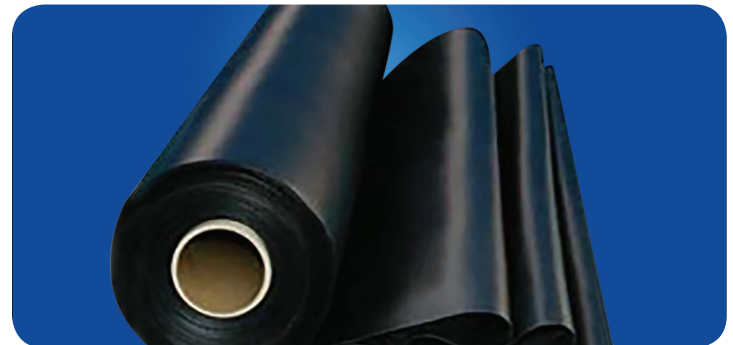
Waterproofing (Subsoil, Covered) MS2

- MS 2.1. Basements, Civil Engineering Structures below ground, Motorway Underpasses, etc.
- MS 2.2. Tunnels and Vaults
- MS 2.3. Water-tanks



Geo-Membranes (Water-world & Landscaping) MS3

- MS 3.1. Containment & irrigation ponds
- MS 3.2. Artificial Lakes & Lagoons; Aquaculture ponds
- MS 3.3. Dam protection liners
- MS 3.4. Canals, Waterways
- MS 3.5. Specialty Containment Applications
- MS 3.6. Oil field & Mining leach reserve pads & storage pits
- MS 3.7. Landfills & Ground water protective linings
- MS 3.8. Golf course ponds
- MS 3.9. Swimming pools



Special applications (New developments, R & D) MS4

- MS 4.1. Solar PV integrated Roofs
- MS 4.2. Nanotechnologies for enhancing polymer properties (R&D)
- MS 4.3. Geo-engineering developments
- MS 4.4. Compounded membranes



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