



MAXELASTIC[®]

PUR

POLYURETHANE ELASTOMERIC MEMBRANE FOR WATERPROOFING OF ROOFS AND OUTDOOR AREAS



DESCRIPTION

MAXELASTIC[®] PUR is a one-component liquid product, ready to use, based on polyurethane resins, that once it cures due to environmental moisture, provides a protective and waterproofing elastic and continuous membrane, suitable for all kind of roofs.

Designed for long-term protection and waterproofing of concrete, cement-based mortars, bricks, tiles, etc., due to its high durability.

APPLICATION FIELDS

- Elastic waterproofing for all types of roofs, terraces, balconies, façades and vertical walls.
- Waterproofing of joints, corners (chimneys, roof borders, etc.), outstanding points, micro-fissures and fissures, due to its bridging, sealing and filling ability (in these cases, reinforcement with polyester/glass fiber veil will be required).
- Waterproofing and protection of roof tiles, metallic coverings, and fibre-cement.
- Waterproofing prior to tile in indoor or outdoor applications, such as balconies, kitchens, bathrooms, terraces, etc.
- Coating and protection of metal structures; tanks or silos, steel pipes, etc.

- Waterproofing of irrigation channels, pipelines, etc.
- External waterproofing and protection for underground concrete structures.

ADVANTAGES

- Very high elasticity at both high and low temperatures. Absorbs thermal movements of substrate subject to extreme weather conditions as well as vibrations.
- Excellent crack-bridging ability, acting as anti-fracture membrane when it is applied on substrate.
- Forms a continuous and waterproofing membrane without joints or connections, sealing permanently cracks and fitting to the geometry of the substrate.
- Excellent adhesion on common substrates used in construction: concrete, mortars, bricks, porous ceramic, tiles, metallic surfaces, etc.
- Suitable for drinking water contact.
- Good chemical resistance to de-icing salts, seawater, wastewater, diluted alkali, and acid solutions.
- Withstands a wide temperature range, i.e. from -40°C to 100°C.
- Good abrasion resistance, suitable membrane for permanent immersion applications.
- Long-lasting protection compared to paints and other coatings. Maintenance-free.
- Ready to use and easy applied manually or by airless spray. Does not require specialized labour. Cold applied, does not need blowtorch for its application.
- Suitable as aesthetic finishing with no maintenance required. Different colours are available.

APPLICATION INSTRUCTIONS

Surface preparation

Surface must be sound, dry, porous and clean, free of badly adhered particles and as even as possible. Equally, substrate must be free from dirt, old paints, gypsum, efflorescence, greases, oils, as well as demoulding agents, curing agents or any coating, which could affect the adhesion. If the surface was previously covered with lime, acrylic treatments, etc., they must be completely removed, just remaining strongly fixed remaining. For the cleaning and preparation of the substrate, in smooth or non-porous substrates, preferably use sand blasting or high-pressure water. Aggressive mechanical methods are not recommended.

Surface damages such as defects, cavities, honeycombs, peelings, unsound areas and fissures without movements, once cleaned and opened to 2 cm minimum depth, should be restored with a structural repair mortar such as **MAXREST**® (Technical Bulletin No. 2). Remove all concrete around structural reinforcement affected by corrosion, clean of rust or scale and then, coat with the oxide converter and anti-corrosion protection **MAXREST**® **PASSIVE** (Technical Bulletin No. 12). Non-structural surface steel bars must be cut up to 2 cm depth prior to be covered with structural restoration mortar.

Metallic surfaces must be cleaned by sandblasting or shotblasting to eliminate all superficial corrosion and rust, and must be degreased, dried and free of dust. Over non-porous, non-absorbent or polished substrates as metal, vitrified materials, ceramic tiles, etc., **MAXPRIMER**® **PUR** (Technical Bulletin No. 195) as primer must be applied.

If substrate should present remaining moisture, apply as primer coating the water-based epoxy primer **MAXEPOX**® **PRIMER -W** (Technical Bulletin No. 372) with an average consumption of 0,20-0,30 kg/m². In this case, before **MAXELASTIC**® **PUR** application **MAXEPOX**® **PRIMER -W** membrane must be completely dry (12-24 hours after its application, depending on environmental moisture and temperature).

Application

MAXELASTIC® **PUR** is supplied ready to use, just requires stir the content of the packaging using a dry and clean tool or preferably by mechanical means with a slow speed drill (300-400 rpm) to get a homogeneous paste before its application.

Preferably, to improve product's penetration in pours and cavities, apply it by short hair roller or solvent-resistant brush, pushing it softly over the substrate. In air-less machine applications, the dilution of the product with **MAXSOLVENT**® in minimal proportion to improve its projection is recommended.

Over porous substrates, the first coat should be diluted with 10-15 % of **MAXSOLVENT**® for better penetration.

Waterproofing and protection of concrete, mortar, metal surfaces and other substrates: Apply two coats of **MAXELASTIC**® **PUR** in cross directions with a consumption of 0,6-0,9 kg/m² per coat (total consumption: 1,2-1,8 kg/m²), paying attention to apply a uniform and continuous coating.

Curing time between coats is 10-12 hours, depending on environmental conditions.

If reinforcement of the membrane is required, apply glass fiber veil **DRIZORO**® **VEIL**, applying a consumption per coat of 0,9 kg/m². On vertical surfaces, apply in three or four coats to achieve the

MAXELASTIC® PUR

same consumption. To improve the adherence of adhesive mortars for ceramic tiles, dust over the last coat still fresh dry silica sand.

If UV exposition is expected, apply 1 or 2 coats of **MAXELASTIC® PUR -E** (Technical Bulletin No. 327) as finishing coating, depending on pedestrian traffic which system will support.

Waterproofing of water containment structures: For applications subject to permanent immersion, prime the surface to be waterproofed with **MAXELASTIC® PUR PRIMER** (Technical Bulletin No. 194) or **MAXEPOX® PRIMER -W** (Technical Bulletin No. 372) with a consumption of 0,25-0,30 kg/m². Once primer has dried completely (12-24 hours), apply the polyurethane waterproofing membrane **MAXELASTIC® PUR**.

Waterproofing of roofs according to ETAG 005: Apply three coats with a total consumption from 2,5-2,7 kg/m².

Encounters and outstanding points: In cold joints, encounters and outstanding points under movements, apply one coat of non-diluted **MAXELASTIC® PUR** with a consumption of 0,9 kg/m². While this coat is still fresh, apply a 20 cm width glass fiber strip as **DRIZORO® VEIL**, trying to embed it in the resin. Once the coat is completely dry, apply a second coat of **MAXELASTIC® PUR** with a consumption of 0,9 kg/m².

Active fissures: Once the fissure is properly treated with a suitable sealant as **MAXFLEX®** range and after its curing time has finished, apply **MAXELASTIC® PUR** coating reinforced with

glass fiber or polyester veil.

Expansion joints: After properly treating and sealing them with **MAXFLEX®** products and after their curing time has finished, the joints must not be covered by the coating, respecting their position and avoiding contact with the sealing material.

Waterproofing of areas exposed to wheeling traffic: once the two coats of **MAXELASTIC® PUR** reinforced with veil **DRIZORO® VEIL** has dried 24 hours, apply two coats of **MAXELASTIC® PUR -F** (Technical Bulletin No. 188) as wearing protective topcoat, and broadcasting dry clean silica between coats if an anti-slippery finish is required.

Application conditions

Avoid outdoor applications if rains or contact with water, moisture, condensation, dew, etc. are expected in the following 24 hours after its application. Working temperature interval is from 5°C to 40°C. Do not apply either below 5°C or when such substrate/ambient temperatures are expected to decrease within the following 24 hours. Do not apply on frozen or swamped surfaces.

Substrate and ambient temperature must be at least 3°C than dew point. Do not apply **MAXELASTIC® PUR** above 85 % of relative humidity. Measure the relative humidity and dew point for applications conducted in proximities of marine environment.

For applications conducted at low temperatures, i.e. less than 15°C, high relative humidity (between 70-85 %) or marine environment, use a 1 kg of the catalyst **MAXELASTIC® PUR CAT** (Technical Bulletin No. 214) per each 25 kg drum of **MAXELASTIC® PUR** to speed up the curing process.



Curing

Allow a minimum curing time of 7 days at 20°C and 50 % R.H. conditions before permanent immersion, flood test, tiling, plasters and covering with gravels/earthworks in foundations. Lower temperature or higher R.H. increase curing time.

Cleaning

Use **MAXSOLVENT**® for tools and equipment cleaning immediately after use. Once it cures, product can only be removed by mechanical means.

CONSUMPTION

Waterproofing and protection of concrete, mortar, metal surfaces and other substrates:

MAXELASTIC® **PUR** estimated consumption is 0,6-0,9 kg/m² per coat, with a total consumption of 1,2-1,8 kg/m² in two coats.

Waterproofing of roofs according to ETAG 005:

MAXELASTIC® **PUR** estimated consumption is 0,8-0,9 kg/m² per coat, with a total consumption of 2,5-2,7 kg/m² in three coats, achieving an estimated dry film thickness of 1,6 mm.

These figures may vary depending on porosity, texture, substrate conditions and application method. A preliminary test on-site will determine the coverage exactly.

IMPORTANT INDICATIONS

- Do not apply in substrates under negative hydrostatic pressure or ascendant capillarity moisture. Prior to application, surface moisture content must not exceed 5 %. Allow sufficient time for the substrate to dry after rain, dew, condensation or other inclement weather, as after cleaning of the surface as well.
- Allow new concrete and mortars a curing time of (at least) 28 days before application.
- Avoid the contact of the product with water, moisture, condensation, dew, etc. during first 24 hours curing time. Do not apply **MAXELASTIC**® **PUR** above 85 % of relative humidity. Use **MAXELASTIC**® **PUR CAT** to speed up the curing process with relative humidity close to those values.
- Minimum-maximum consumption ratios must be respected.
- Do not exceed the recommended ratio when mixing with **MAXSOLVENT**® and do not use any other different solvent. Other solvents could change or inhibit the curing process. Do

not add different compounds than specified products in the Technical Bulletin.

- For other uses do not specify in this Technical Bulletin or further information, consult our Technical Department.

PACKAGING

MAXELASTIC® **PUR** is supplied in 25 kg drum. Available in standard colours: white, grey, red, green and black colour.



STORAGE

Nine months in its original unopened and unaltered packaging. Storage it in a dry and covered place, protected from frost, humidity and sunlight, with temperatures between 5°C and 35°C. Storage at higher temperatures may result in an increase of viscosity.

SAFETY AND HEALTH

MAXELASTIC® **PUR** is a flammable product so all storage, transport, handling and application precautions must be observed for this kind of product. Do not smoke in working areas and provide adequate ventilation to avoid vapours accumulations. The composition of the product is not toxic, but skin and eye contact must be avoided. Safety goggles and protective gloves should be used during application. In case of skin contact, wash affected areas with soap and water. In case of eye contact, rinse thoroughly with clean water but do not rub. Seek medical attention if irritation persists. Safety Data Sheet of **MAXELASTIC**® **PUR** is available by request.

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Disposal of the product and its empty packaging must be made by the final user responsibility and according to official regulations.

TECHNICAL DATA

Product characteristics		
CE marking. (ETAG-005. Part 6) ETA 06/0073.		
Description and Uses: Liquid applied roof waterproofing kit. Specific stipulations for kits based on polyurethane.		
UNE 104.309/1-2-3		
Waterproofing. Parts 1, 2 & 3. Liquid materials for water conveyers, dams paraments and tanks used in hydraulic works. Specifications, test methods and applications.		
General appearance and colour	One-component, coloured paste	
Density, ISO 1675 (g/cm ³)	1,40 ± 0,1	
Application and curing conditions		
Temperature / Relative Humidity, (°C / %)	Ambient	Substrate
	5-40 / < 85	> 5 / < 5
Waiting time between applications at 20°C (h)	10-12	
Drying time at 20°C and 50 % H.R., (h)	24	
Total curing time at 20°C and 50 % H.R. for covering with ground, mortars, tiles or for permanent immersion or flooding test, (d)	7	
Cured product characteristics		
Reaction to fire, EN 13501-1	Euroclass E	
Water vapour permeability, UNE-EN 1931, μ	1830	
Resistance to wind loads, (kPa)	≥ 50	
Crack-bridging capability, NFT 30/703 (mm)		
- Curing for 7 days at 23°C and 50 % R.H.	5,4	
- Curing for 3 days at 23°C and 50 % R.H. and 4 days at -20°C	8,9	
Adhesion on concrete ASTM D-4541 (MPa)	2,6 (Break of substrate)	
Tensile strength and elongation, EN-ISO 37/1994 (MPa / %)	3,1 / 852	
Water absorption at 24 / 144 h, UNE 53028 (%)	1,66 / 3,31	
Suitability for drinking water. 2002/72/CE	Approved	
Classification according to ETAG 005		
Warranty life	W2	W3
Climatic zones	M & S	
Imposed loads	P1 (Low) to P3 (Moderate)	P1 (Low) to P4 (Special)
Roof slope	S1 (<5%) to S4 (>30%)	
Lowest surface temperature	TL3 (-20°C)	TL4 (-30°C)
Highest surface temperature	TH4 (90 °C)	
Consumptions*		
	Standard	ETAG 005
Consumption per coat, (kg/m ²)	0,6-0,9	0,8-0,9
Consumption per total application, (kg/m ²)	1,2-1,8	4,1-4,5

*These figures may vary depending on porosity, texture, substrate conditions and application method. A preliminary test on-site will determine the coverage exactly.

GUARANTEE

The information contained in this leaflet is based on our experience and technical knowledge, obtained through laboratory testing and from bibliographic material. **DRIZORO®**, **S.A.U.** reserves the right to introduce changes without prior notice. Any use of this data beyond the purposes expressly specified in the leaflet will not be the Company's responsibility unless authorised by us. We shall not accept responsibility exceeding the value of the purchased product. The data shown on consumptions, measurement and yields are for guidance only and based on our experience. These data are subject to variation due to the specific atmospheric and jobsite conditions so reasonable variations from the data may be experienced. To know the real data, a test on the jobsite must be done, and it will be conducted under the client responsibility. We shall not accept responsibility exceeding the value of the purchased product. For any other doubt, consult our Technical Department. This version of bulletin replaces the previous one.



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