



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 and long-term protection of water tanks, reservoirs, digesters, etc.
- Waterproofing of joints, planes encounters (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).
- Bridging, sealing and filling of hairline cracks, outstanding points, joints and fissures subjected to movements, sealing and filling them, using in these cases reinforcing glass fiber veil.
- 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.
- Waterproofing of irrigation channels, pipelines, etc.
- Coating and protection of metal structures; tanks or silos, steel pipes, 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 requires specialized labour. Cold applied, does not need blowtorch for its application.
- Suitable as aesthetic finishing with no maintenance required. Different colours 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 de-moulding agents, curing agents or any coating, which could affect the adhesion. If surface was previously covered with lime, acrylic treatments, etc... They must be completely removed, just remaining strongly fixed remainings. 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 up to 2cm minimum depth, should be restored with a structural repair mortar such as **MAXREST®** (Technical Bulletin n° 4). 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 n° 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 also 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 n° 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 n° 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, and just requires stir the content of the packaging using a dry and clean tool or preferably by mechanical means with a slow speed drill (400 – 600 rpm) in order to get a homogeneous paste before its application.

Preferably, in order to improve product's penetration in pours and cavities, apply it by short hair roller or solvent-resistant brush, pushing it shortly over the substrate. In air-less machine applications, the dilution of the product with **MAXSOLVENT®** in minimal proportion in order 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 an 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 same consumption. In order to improve the adherence of adhesive mortars

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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 n° 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 n° 194) or **MAXEPOX® PRIMER -W** (Technical Bulletin n° 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 possible 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 and expansion joints: once the fissure or joint is properly treated with an appropriate sealant as **MAXIFLEX®** range and after its curing time has finished, apply **MAXELASTIC® PUR** coating reinforced with glass fiber or polyester veil.

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 n° 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 neither 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 carried out in proximities of marine environment. For applications carried out 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 n° 214) per each 25 kg drum of **MAXELASTIC® PUR** in order 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, 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 0,60-0,90 kg/m² per coat, with a total consumption of 1,20-1,80 kg/m² in two coats.

Waterproofing of roofs according to ETAG 005:
MAXELASTIC® **PUR** estimated consumption is 0,80-0,90 kg/m² per coat, with a total consumption of 2,50-2,70 kg/m² in three coats, achieving an estimated dry film thickness of 1,6 mm approximately.

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 modify or inhibit the curing process. Do not add different compounds than specified products in the Technical Bulletin.
- For other uses do not specified 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

Twelve 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 in order 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.

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 y 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, (d)		7	
Cured product characteristics			
Reaction to fire, EN 13501-1 (Euroclass)		E	
Water vapour permeability, UNE-EN 1931, μ		1.830	
Resistance to wind loads, (kPa)		≥ 50	
Crack-bridging capability, NFT 30/703 (mm)		5,4	
- Curing for 7 days at 23 °C and 50 % R.H.		8,9	
- Curing for 3 days at 23 °C and 50 % R.H. and 4 days at -20 °C			
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. In order to know the real data, a test on the jobsite must be done, and it will be carried out 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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