DRIZORO® Construction Products

MAXURETHANE® 2C

TWO-COMPONENT POLYURETHANE PROTECTIVE COATING WITH SATINE/GLOSSY FINISH FOR OUTDOOR USES CE

DESCRIPTION

MAXURETHANE® 2C is a two-component coating based on flexible, transparent or coloured, air-cured synthetic aliphatic polyurethane resins. Once cured provides a protective and decorative coating with highly resistance to weathering and UV rays, with long-term colour stability and suitable for protection of concrete and masonry surfaces. It is available in two versions: gloss or satine finish.
Meets the requirements of European Standard EN 1504-2; Surface protection systems for concrete.

APPLICATION FIELDS

- Decorative and protective coating against abrasion suitable on concrete floors, tiles and ceramic pavements in sport centers, industrial facilities, warehouses, underground car parks, terraces, balconies, etc.
- Anti-corrosion protection with decorative finish in metal structures, bridges, sewage treatment plants, harbors, tanks, etc.
- Protective coating against UV ray for epoxy or polyurethane resins in outdoor areas.
- Protective coating for architectonical concrete and facades against weathering and

aggressive environment such as acid rain, freeze/thaw cycles, marine environment, etc…
- Multilayer systems for wet processing areas, stairs, ramps, loading docks, cold storage, maintenance areas, etc.
- Protective coating on drainage boxes, retaining tanks or areas exposed to spillages and spattering of chemical compounds and UV rays: petrol, diesel, fuel oil, lubricating oils, diluted chemicals, etc.
- Protection and finish suitable for outdoor areas on supports of wood, metal and ceramic tiles in general, epoxy and polyurethane systems.
- Protection of drinking water tanks and food industry.
- Chemical protective coating of concrete structures in cooling towers, industrial plants, warehouses, etc.

ADVANTAGES

- Resistant to UV rays, providing durability and colour stability.
- Long lasting. Withstands a wide temperature range and weathering.
- Excellent abrasion resistance against road traffic and machinery.
- Very good chemical resistance to water, seawater, wastewater, grease and oils, de-icing salts, salt solutions, diluted alkali and acid solutions.
- Excellent adhesion on concrete and cement mortars. No special primer/bonding agent is requiered.
- Provides a compact, continuous, uniform surface with anti-dust finish for easy cleaning and maintenance of the surface coated.
- Quick drying.
- Can be applied as a non-slip floor finish by dusting of aggregates on top.
- Easy and ready to use product: applied manually by brush, roller, or mechanically by air-less spray equipments.

APPLICATION INSTRUCTION

Surface preparation

Surface must be structurally sound, firm, without cement laitance and as uniform as possible, and preferably with a slight roughness, i.e. open textured surface. It must be clean and free of paints, coatings, efflorescence, loose particles, grease, oils, curing agents, form release agents, dust, gypsum plasters, organic growth or any other contaminants that may affect to adhesion.
Surface moisture content should not exceed 5 %. Do not apply on substrates subject to rising damp or negative water pressure.

Concrete and mortars:
Provide a mechanical texturing by abrasive disc, dry sand-blasting, scarification or other abrasive method to achieve at least a slightly textured surface, not being desirable aggressive mechanical or chemicals means. Finally, vacuum the dust and loose particles.

All small voids, holes, honeycombs, cavities, once opened must be patched with epoxy-cement mortar ***MAXEPOX® CEM*** (Technical Bulletin No. 197) or with the epoxy-based mortar ***MAXEPOX® JOINT*** (Technical Bulletin No. 237). Static cracks without movement, once opened and routed to a minimum depth of 2 cm, must be repaired with the ***MAXREST®*** (Technical Bulletin No. 27) to provide an even surface.

Rebars should be cleaned and passivated with ***MAXREST® PASSIVE*** (Technical Bulletin No. 12), while non-structural and surface iron elements must be cut to a depth of at least 2 cm and then covered with ***MAXREST®***.

Expansion joints and fissures/cracks subject to movements, once opened must be sealed with a suitable sealant of ***MAXFLEX®*** range.

Steel surfaces:
Metal surfaces should be cleaned to remove all traces of corrosion, and must be degreased, dry and free of dust. Use sand or shot blasting to grade Sa 2½ of Swedish Standards.

Mixing

MAXURETHANE® 2C is supplied as a pre-weighed two-component set.

Premix the components separately, and then the hardener component B, is poured into the resin component A, ensuring is fully added.

Mixing manually or preferably using a low speed drill (300-400 rpm. maximum), fitted with a mixer suitable for liquids, for about 2-3 minutes until achieving a homogeneous product in colour and appearance.

Application

Apply by using a brush or roller resistant to solvents. If using an air-less spray equipment, dilute with the minimum amount of ***MAXURETHANE® 2C SOLVENT®*** that allows its spray application.

Priming on concrete or porous substrate:
Apply a first coat of ***MAXURETHANE® 2C*** diluted with 10-15% of ***MAXURETHANE® 2C SOLVENT*** with a consumption of 0,20 kg/m^2, depending on substrate porosity.

Priming on low or non-porous substrates:
On low porosity substrates such as marble, natural stone, porcelain, tile, vitrified elements, terrazzo, granite, polished concrete and metal, apply the primer ***MAXPRIMER® PUR*** primer (Technical Bulletin No. 213) with a consumption of 0,10 - 0,15 l/m^2.

Once primer is dry, i.e., from 4 to 6 h for ***MAXURETHANE® 2C*** diluted with ***MAXURETHANE® 2C SOLVENT***, and 1 hour for ***MAXPRIMER® PUR*** respectively, the surface is ready for the following coat.

Coating with smooth surface finish):
Once primer is dry, apply one or two pure coats of ***MAXURETHANE® 2C*** with a consumption from 0,20 to 0,25 kg/m^2 per coat, depending of porosity substrate, and allow a drying time between coats of 4 to 6 hours at 20 ºC.

Additional coats can be applied following the same interval time between coats. If this time does elapse before the following coat is applied or the surface has been in contact with water or other liquids, then lightly sand the surface before proceeding with next coat. Total recommended consumption for this application is of 0,40 - 0,50 kg/m^2.

Coating with non-slip surface finish (Slip/skid resistance value, Rd=3):

Once primer is dry, apply one pure coat of ***MAXURETHANE® 2C*** with a with a consumption of 0,20 - 0,25 kg/m^2 per coat, depending on porosity substrate.

While this coat is still fresh, dust dry and clean silican sand ***DRIZORO® SILICA 0308*** (0,3-0,8 mm size) with a consumption from 1,0 to 1,5 kg/m^2. Once it is dry, i.e., at least 4-6 hours, depending on environmental and ventilation conditions, sweep and vacuum surface to remove unbounded and excess sand. Finally, apply a second coat of pure ***MAXURETHANE® 2C*** with a consumption from 0,25 kg/m^2. Total recommended consumption for this application varies from 0,60 to 0,70 kg/m^2.

Application conditions
Do not apply when rain, water contact, condensation, dampness or dew is expected within 72 h after application.

Do not apply with substrate and/or ambient temperature is at or below 10°C, or when are expected to fall below 10°C within 24 h after application. Do not apply to frozen or frost-covered surfaces.

Ambient and surface temperature must be at least 3 ºC higher than dew point. Check the relative humidity and dew point before applying in proximities to marine environment.

Curing
Allow ***MAXURETHANE® 2C*** to cure for at least 3 days at 20 °C and 50% R.H. before water immersion, flooding test or heavy traffic. Applications at lower temperatures, high humidity and/or poor ventilation require longer drying and curing times.

Cleaning
All mixing and application tools must be cleaned immediately with ***MAXURETHANE® 2C SOLVENT***, after use. Once product cures, this can only be removed by mechanical means.

CONSUMPTION

Estimated consumption of ***MAXURETHANE® 2C*** is 0,20 kg/m^2 as primer, and 0,20 - 0,25 kg/m^2 per successive coats.

These figures are for guidance only and may vary depending on porosity, texture, substrate conditions and application method. Perform a preliminary test on-site to ascertain the total consumption exactly.

IMPORTANT INDICATIONS

- Do not apply on substrates subject to rising damp or negative water pressure.
- Surface moisture content must be below 5 %. Allow substrate to dry enough after rain, water contact, damp, dew, condensation, etc, as well as after washing of surface. If moisture is trapped behind the coating, a white film may be developed.
- Allow new concrete and cement mortars to cure 28 days before coating.
- Do not add solvents, thinners, or other non-specified compounds, and nor exceed the recommended mixing ratio when using ***MAXURETHANE® 2C SOLVENT***.
- Observe the recommended consumptions per coat.
- For other uses not specified on this Technical Bulletin or further information, consult the Technical Department.

PACKAGING

MAXURETHANE® 2C is supplied in pre-weighed two-component sets of 5 kg and 25 kg. It is available in gloss or satine finish, with the following colors: grey, red, green, dark blue, light blue and transparent. Other colours are available upon special request.

STORAGE

Twelve months component A and six months component B, in its unopened original packaging. Store in a cool, dry and covered place, protected from moisture, frost and direct sunlight, with temperatures between 5 ºC and 30 ºC. Storage at higher temperatures may result in an increase of viscosity.

SAFETY AND HEALTH

MAXURETHANE® 2C is a flammable product so all storage, transport and handling precautions must be observed for this kind of product. Do not smoke in working areas and provide adequate ventilation. Keep away packaging from heat and ignition sources.

Skin and eye contact must be avoided. Safety rubber goggles and protective gloves should be used when handling, mixing and applying the product. In case of contact with skin, wash affected area with soap and water. In case of eye contact, rinse immediately thoroughly with clean water but do not rub. If irritation persists, seek medical assistance.

Consult the Material Safety Data Sheet for ***MAXURETHANE® 2 C*** .

Disposal of the product and its packaging must should be carried out according to the current official regulations and it is the responsibility of the final user of the product.

TECHNICAL DATA

Product characteristics		
CE Marking, EN 1504-2 Description. Polyurethane coating for protection of concrete. Coating (C). Principles / Methods. Protection against ingress with coating (Principle 1-PI / 1.3) and Moisture control with coating (Principle 2-MC / 2.2)		
A:B mixing ratio	4:1	
Density at 20°C, (g/cm^3)	1,29 ± 0,05	
Application and curing conditions		
Minimum application temperature (ºC)	>10	
Waiting time between coats at 20 °C, (h)	4 – 6	
Total curing time al 20 ºC & 50% R.H. - Permanent immersion, flooding test , heavy traffic (d)	3	
Cured product characteristics		
Permeability to water vapour, EN ISO 7783-1/-2. - Classification, S_D (m)	Class I: Permeable to water vapour < 5	
Permeability to water and capillary absorption, EN 1062-3. w (kg/m^2·h^{0,5})	< 0,1	
Permeability to CO_2, EN 1062-6. S_D (m)	> 50	
Adhesion on concrete at 28 days, EN 1542 (MPa)	≥ 1,0	
Adhesion on metal / concrete, ASTM D-4541 (MPa)	2,74 / 3,75	
Abrasion resistance (Taber Index), ASTM D-4060. Wearing index (Abrading wheel: CS-10 & Load: 0,5 kg)	500 Cycles 0,024	1.000 Cycles 0,025
Resistance to severe chemical attack, EN 13529 (Reduction in Shore hardness)	Class I: G-1 (2%), G-9 (3%), G-10 (4%), G-11 (3%) Class II: G-1 (3%), G-9 (5%), G-10 (6%), G-11 (4%)	
Chemical resistance. - Salt spray cycling (1500 hours) - Industrial detergent - Sea water	 No changes No changes No changes	
Slip/skid resistance value, UNE-ENV 12633	Class 3	
Suitability for contact with potable water: RD 140/2003	Approved	
Suitability for contact with water-based foods: European Directive 2000/72/CE	Approved	
Consumption*		
Primer coat, (kg/m^2) Successive coats (kg/m^2)	0,20 0,20-0,25	

* These figures are for guidance only and may vary depending on porosity, texture, substrate conditions and application method. Perform a preliminary test on-site to ascertain the total consumption 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.

DRIZORO, S.A.U.
C/ Primavera 50-52 Parque Industrial Las Monjas
28850 TORREJON DE ARDOZ – MADRID (SPAIN)
Tel. 91 676 66 76 - 91 677 61 75 Fax. 91 675 78 13
e-mail: info@drizoro.com Web site: drizoro.com