



MAXURETHANE[®] CEM-L



FLUID POLYURETHANE-CEMENT MORTAR FOR SMOOTH PAVEMENTS WITH HIGH CHEMICAL AND MECHANICAL PERFORMANCES

DESCRIPTION

MAXURETHANE[®] CEM-L is a three-component, water-based, polyurethane-cement mortar with fluid consistency, designed to provide high performance smooth pavements between 4 to 6 mm thickness, with high abrasion, impact and chemical resistance.

APPLICATION FIELDS

- Smooth finish pavements for petrochemical, pharmaceutical, food industry, etc., subject to high mechanical and chemical requirements.
- Areas subject to heavy traffic in workshops, warehouses, loading and unloading areas, cold rooms and other surfaces exposed to heavy wear, etc.
- Very high chemical-resistant floors in industrial facilities against cleaning agents, degreasing surfactants, fats, diluted alkalis and acids, hydrocarbons and other aggressive chemicals.

ADVANTAGES

- High mechanical resistance to compressive strength, abrasion, impact, mechanical cleaning, wearing, etc.
- Excellent chemical resistance, higher than epoxy-based systems.
- Good thermal resistance: from -25°C to +70°C.
- Fast hardening: allows road traffic in 48 hours.
- Fluid consistency and very easy workability provides smooth finish quickly and easily.
- Continuous pavement, with no construction joints.
- Environmentally friendly: non-toxic, solvent-free and non-flammable. Suitable for use in bad ventilated areas.

APPLICATION INSTRUCTIONS

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. Minimum bond strength of substrate must be above 1,5 N/mm². 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 contaminant. Surface moisture content should not exceed 5 %.

For substrate preparation and cleaning, preferably in case of smooth and/or poorly absorbent substrates, use sand blasting or high pressure water cleaning methods, not being desirable aggressive mechanical or chemical means.

Voids, holes, honeycombs, cavities, cold joints, and static cracks without movement or any others defects deeper than 10 mm, once opened and routed must be repaired patching mortar **MAXROAD[®]** (Technical Bulletin No. 27).

Mixing

MAXURETHANE[®] CEM-L is supplied as a three-component pre-weighed set. Premix liquid components A and B separately, pour them to a clean container and mix until achieving a homogeneous liquid, using a slow speed electric drill (300-400 rpm) fitted with a disc mixer. Then, add gradually component C powder to the liquid and mix as before, for about 2-3 minutes until achieving a smooth, lump-free and homogeneous fluid mortar. Do not mix for prolonged period nor use high-speed mixer, which may heat the mixture or introduce air bubbles. Allow the mortar to rest for 5 minutes to fully wet out all the powder and then remix again briefly before application. Check Technical Data Table for the pot life of the product (20 minutes at 20° C).

This pot life is reduced progressively with higher application temperatures.

Application

Apply **MAXURETHANE[®] CEM PRIMER** (Technical Bulletin No. 369) with a consumption from 1,5 to 2,0 kg/m² by brush or roller and allow it to dry to touch 24 hours. Drying time depends on temperature, relative humidity, ventilation and substrate porosity.

Place and spread **MAXURETHANE® CEM-L** in a single step by rubber squeegee or toothed trowel, with a layer from 4 to 6 mm thickness. Before the surface begins to set, i.e., about 20 minutes at 20 °C, use a spiked roller to eliminate entrapped air.

Apply on delimited sections in advance that should be finished completely to avoid cold joints in non desired places. Expansion joints must not be covered by **MAXURETHANE® CEM-L** and should be sealed with a suitable flexible sealant from **MAXFLEX®** range.

Use the thixotropic version **MAXURETHANE® CEM-C** (Technical Bulletin No. 174) for floor-wall corners.

Application conditions

Do not apply when rain, contact with water, condensation, dampness or dew is expected within the first 24 h after application.

The optimum temperature range for application is from 10 °C to 30 °C. Do not apply with substrate and/or ambient temperature is at or below 5°C, or when temperatures are expected to fall below 5 °C within 24 h after application. Do not apply to frozen surfaces.

Ambient and surface temperature must be at least 3 °C higher than dew point. Do not apply with R.H. higher than 85 %. Measure the relative humidity and dew point before applying close to marine environment.

With low temperatures and/or high humidity levels, use dry and warm air in order to get the suitable conditions, such as with an electric powered air blower system.

Temperatures above 30 °C lead a quick-setting between components and heat production, so the pot life is greatly reduced. Avoid applications in areas exposed directly to sunlight at high temperatures.

Curing

Allow **MAXURETHANE® CEM-L** to cure 12 h for pedestrian traffic and 48 h for heavy traffic, at 20 °C and 50 % R.H. Lower temperature, poor ventilation area and/or higher R.H. increase the curing time.

Cleaning

All tools and equipments must be cleaned immediately with **MAXSOLVENT®** after use. Once product hardens, it can only be removed by mechanical means.

CONSUMPTION

Estimated consumption of **MAXURETHANE® CEM-L** is 2,0 kg/m² per mm thickness.

Consumption may vary depending on porosity, texture, substrate conditions and application method. A preliminary test on-site will determine the total consumption exactly.

IMPORTANT INDICATIONS

- Do not apply on weak or unsound substrates.
- Do not add cements, additives or other compounds.
- Mix mechanically full sets units and do not use leftovers of previous mixes.
- Different mixing ratios, application thickness, surface porosity, curing conditions, etc may produce light differences of colour intensity.
- Observe the recommended thickness per layer.
- Applications at temperatures below 15°C, may lead a higher viscosity of the liquid components and consequently a lower fluidity of the fresh mortar.
- It can be affected by a superficial colour change over a long period of time exposed to UV rays, but it does not affect the mechanical properties. Use a topcoating with **MAXURETHANE® 2C** (Technical bulletin No. 87)
- For other uses not specified in this Technical Bulletin or further information, consult our Technical Department.

PACKAGING

MAXURETHANE® CEM-L is supplied in pre-weight three-component set of 35,7 kg: Component A in 4,92 kg plastic can, Component B in 5,78 kg plastic can, and Component C in 25 kg bags. It is available in standard grey, white, red and green colour.

STORAGE

Twelve months in its unopened original packaging. Store in a cool, dry and covered place, protected from moisture, frost and direct sunlight, with temperatures from 5 °C to 35 °C.

SAFETY AND HEALTH

MAXURETHANE® CEM-L is not a toxic product but is an abrasive compound. Avoid direct contact with skin and eyes, and breathing dust. Use rubber gloves and safety goggles when mixing and applying the product. In case of skin contact, wash affected area with soap and water. In case of eye contact, rinse immediately thoroughly with clean

water but do not rub. If the irritation persists, seek medical assistance.

Consult the Material Safety Data Sheet for **MAXURETHANE® CEM-L**.

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

If the irritation persists, seek medical assistance. Consult the Material Safety Data Sheet for **MAXURETHANE® CEM-L**.

TECHNICAL DATA

Product characteristics	
CE Marking, UNE-EN 13813	
Description: Polymer modified cementitious screed material. EN 13813 CT-C50-F20-AR0,5	
Uses: Indoor applications in constructions as a wearing surface	
General appearance and colour	Grey, white, red or green mortar
Density components A / B / C, (g/cm ³)	0,99 / 1,23 / 1,50 ± 0,10
Density fresh mortar (A+B+C), (g/cm ³)	1,97 ± 0,10
Density for cured and dry product, g/cm ³)	1,85 ± 0,10
Application and curing conditions	
Minimum application temperature for substrate and ambient, (°C)	> 5
Pot life at 20°C, (min)	20
Initial/Final setting time at 20 °C, (h)	1-2 / 3-4
Total curing time at 20 °C & 50% R.H., (d)	
- Pedestrian traffic	12
- Light-moderate road traffic	24
- Heavy road traffic	48
Cured product characteristics	
Compressive strength at 28 days, EN 13892-2 (N/mm ²)	55,7 – C50
Flexural strength at 28 days, EN 13892-2 (N/mm ²)	22,0 – F20
Wear resistance BCA, EN 13892-4 (µm)	30 – AR 0,5
Elastic modulus, EN ISO 178 (kN/mm ²)	2,7 – E2
Impact resistance, EN ISO 6272 (N·m)	IR 14,7
Adhesion on concrete at 28 days, EN 13892-8 (N/mm ²)	3,4 – B2,0
Slip/skid resistance value, UNE-ENV 12633	Class 3
Temperature resistance	
- 4 to 5 mm thick	From -15 °C to +50°C
- > 5 - 6 mm thick	From -30 °C to +60°C (Occasionally up to +70 °C)
Resistance to severe chemical attack, EN 13529 (Reduction in Shore hardness)	Class I: G-1 (3%), G-9 (4%), G-10 (6%), G-11 (5%) Class II: G-1 (5%), G-9 (6%), G-10 (7%), G-11 (6%)
Thickness / Consumption*	
Thickness per layer, (mm)	4 – 6
Consumption per layer, (kg/m ² per mm thickness)	2,0

* Consumption may vary depending on porosity, texture, substrate conditions and application method. Perform a preliminary test on-site to determine the 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.