KEM PROOF PUWC

Single component moisture curing polyurethane liquid applied waterproofing membrane

Ref. WP/CO-V2-1214

Description

KEM Proof PUWC elastomeric membrane is a liquid applied coating based on polyurethane prepolymers extended with tar, which cures by reaction with atmospheric moisture to give a continuous film that is rubber-like and elastic. KEM Proof PUWC is a high solid coating designed to give a high-build film. It can be brush or spray applied (with airless spray equipment) but it has a higher viscosity than a conventional paint and should not be diluted.
KEM Proof PUWC cures to a permanently flexible seamless membrane that, by virtue of its chemical reactivity in the wet state, has good adhesion to a wide range of substrates. Unlike more traditional bitumen based products, KEM Proof PUWC does not readily embrittle with age, exposure to ultra violet radiation or weathering, and hence it does not crack or craze (European conditions).
Since it is elastomeric KEM Proof PUWC is not adversely affected by extremes of temperature consequently it is resistant to cracking at low temperatures and does not suffer thermal flow at elevated temperatures.
KEM Proof PUWC can be applied by brush, airless spray or roller without the need to mix, stir or heat before application.

Uses

KEM Proof PUWC is designed to bond to many types of substrate particularly those commonly requiring a waterproof membrane in 'tanking', above and below ground, and internal wet area sections of buildings.

Typical Properties

Appearance : Black viscous liquid
Abel closed cup flashpoint °C (ISO 1523, 1983) : 69
Application limits ° C : 5 – 60
Approximate Dry Time (20° C, 50% RH) : 12 – 24 hrs touch dry, days full cure
Elongation % (ASTM D412) minimum : 500
Tensile Strength MN/m² (ASTM D412) minimum: 2.0
Accelerated Weathering 12000hrs (ASTM G154): No appreciable deterioration
U/V Resistance (European Conditions): Excellent
Hydrolysis Resistance : Excellent
Resistance to Industrial Environments : Good
Storage Stability in unopened container : 6 months

Tested to ASTM C836-05
Hardness (Shore 00 / A) : 90 / 50
Low temperature Flexibility
Crack Bridging : No cracking
Adhesion-in-Peel (mortar) : 6.5 lb/in
Extensibility after Heat Aging: No Cracking

Water Vapour Permeability
Free films were prepared and allowed to cure for 28 days prior to test. The water vapour permeability was measured using the dry cup method under tropical conditions of 38° C and 90% rh as described in ASTM E96-05 Result: 22.2 g/(m²/24 h)/1 mm

Crack Bridging Ability (ASTM 836-84m)
Result: 2.6 mm (20°C, 0.4mm thick KEM Proof PUWC)

Penetration by Fire & Surface Spread of Flame Resistance
Result: EXT.F.AA. (BS 476: Part 3)

Standards

Conforms to the requirement of ASTM 836-05 standard specification for high solids content, cold applied liquid elastomeric waterproof membrane for use with separate wearing course. It may be applied as per the guidelines mentioned in ASTM C – 898

Direction for use

- Remove all loose material by vigorous brushing, wire brush if necessary.
- Treat any fungal growth with proprietary fungicide as recommended.

- Allow surface to dry thoroughly and any moisture contained in the structure to evaporate.
- Fill cracks and voids with a polyurethane mastic sealant.
- Apply KEM Proof PUWC at a maximum film thickness of 0.5 mm for two-coat applications and 1 mm for one coat.
- In the case of two-coat application, the first coat should be touch dry 12-48 hours (in some conditions this might be delayed) and the second coat should be applied within 24 hours of this stage to ensure good adhesion.
- Second coat delay: - if more than 24 hours elapse after touch dry stage of the first coat, re-prime the entire surface and allow to dry before recoating within 4-8 hours.
- Day-work joints – where application extends over more than a working day, an overlap of
- 150mm should be used.
- Aromatic hydrocarbon solvent should be used to clean equipment etc.

The Dry Film Thickness (DFT) of KEM Proof PUWC should not be less than 0.5 mm or more than 1.0 mm for each coat. Rough or textured surfaces will reduce the coverage rate and consequently more material must be allowed to achieve the minimum DFT.

KEM Proof PUWC is a membrane coating, not a paint and as such protection is only achieved with a high film build, i.e. 1 mm on flat surfaces minimum. It is therefore essential that this be achieved.

The membrane can be applied in one 1 mm or two 0.5 mm coats. Two coats are recommended on uneven and jointed surfaces to minimize the possibility of thin patches, missed areas and pin holing. Also sloping or vertical surfaces will only accept 0.5 mm per coat. In the case of two-coat application, it is important to re-coat within 24 hours of the first coat becoming sufficiently cured to allow operator access.

Spray Application:
Only airless spray should be used
Graco King 60: 1 ratio or similar
Compressor : - 100 psi, 60 cfm min
Tip Size : - 28-30 thou 50° Angle

Application Rate:
KEM Proof PUWC is easily and quickly applied manually at a rate of 40 m² per man per day or up to 600 m² per man per day by spray application.
Repairs:
Minor damage to KEM Proof PUWC can be repaired by removing loose membrane; cleaning the surrounding area with aromatic hydrocarbon solvent; overlapping by 150 mm; priming the area with a suitable product, and finishing with two coats of KEM Proof PUWC.

Coverage

Coverage rates may vary with surface texture and porosity. The information given is based on average usage. A site trial is recommended.
KEM Proof PUWC : 1 litre / m² on a smooth flat surface will provide an adequate film thickness of approx 1mm. Any surface texture will increase the surface area which must be allowed for when Calculating usage e.g. on a chipping embedded surface the actual area will be approximately Doubled.

Storage and Shelf life

Store in dry conditions from 10°C to 25°C. Product is sensitive to moisture. For this reason the contest of container once opened should be used immediately. Shelf life is Six months from the date of manufacture in sealed original container under dry conditions.

Safety Precautions

It should not come in contact with skin and eyes or be swallowed. Avoid prolonged inhalation of the vapors. Some people are sensitive to isocyanates therefore; protective gloves, goggles and barrier cream should be used. Ensure adequate ventilation and if working in enclosed areas, suitable breathing apparatus should be used. If mixed resin comes in contact with skin, it should be removed with a resin removing cream followed by washing with soap and water. Should accidental eye contamination occur with any of the above products, wash well with plenty of clean water and seek medical advice immediately. If swallowed, seek medical attention immediately. DO NOT INDUCE VOMITING. Refer our safety data sheets before using this material.

Cleaning: Spillages should be absorbed with sand or earth etc. & disposed in accordance with local regulations.

Fire resistance: The product is flammable. Store away from direct sunlight, sources of heat and open fire, sparks etc.

Technical Service

Chembond has established itself in various fields on the basis of its dependable technical service. For this purpose, we maintain a well equipped laboratory for research & quality assurance of all products. Our experienced personnel are always on call and would always be available for product demonstrations and product performance monitoring.

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