

Duragard 104

CEMKRETE

Highly chemical resistant two pack epoxy system

Innovative products for your success

Description

Duragard 104 is a high build, solvent free, two pack epoxy formulation. It is supplied in pre-measured quantities ready for site mix use. It is used in conjunction with solvent containing primers for concrete and steel.

Uses

To provide protection to concrete and steel structures in aggressive chemical immersion conditions. The material is particularly suitable for applications in processing plants and sewage works.

Advantages

- Excellent chemical resistance
- Excellent adhesion to concrete and steel
- Excellent abrasion resistance

Design criteria

Duragard 104 is designed to be applied in one coat to achieve a minimum total dry film thickness of 250 microns. When used in conjunction with glass-fiber reinforcement to bridge fine cracks, in such case it is applied in two coats to achieve a minimum total dry film thickness of 500 microns. Duragard 104 is designed to be used with Primer 500 on concrete surfaces. Generally Primer 500 green in colour.

Properties

Volume solids : 100%

Pot life

@ 20°C : 3 ½ hours
@ 35°C : 1 ½ - 2 hours

Chemical resistance

Acids (m/v)

Citric acid 30% :	Excellent
Hydrochloric acid 18% :	Excellent
Lactic acid 10% :	Excellent
Acetic acid 5% :	Excellent
Sulphuric acid 50% :	Excellent

Alkalis (m/v)

Sodium hydroxide 50% : Excellent

Resistance on other chemicals please get consulted your near Cemkrete office for data.

Specification

The lining material for uses in protection to concrete and steel structures should have excellent chemical and abrasion resistant shall be of a high build, two pack epoxy system specifically designed to provide a tough and impermeable film.

Instructions for use

Preparation

Concrete surfaces

All surfaces must be dry, smooth, sound and free from debris and loose material. Surfaces must be free from contamination such as oil, grease, dust, loose particles and organic growth. Concrete surfaces must be fully cured, laitance-free and free from any traces of shuttering release oils and curing compounds. All surfaces should then be prepared to remove all foreign matter, open up blow holes and provide a suitable key for Duragard 104. All blow holes and imperfections should be filled with Cemkrete repair mortars. All surfaces should then be primed with Primer 500. It is mixed in the proportions supplied and applied in a thin, continuous film. The primer should be touch dry but allowed to cure for no more than 24 hours at 20°C or no more than 16 hours at 35°C before the application of Duragard 104.

Steel surfaces

All surfaces should be grit blasted to meet the requirements of BS 7079, Sa3. The lining work should be programmed so that newly cleaned steel is primed before the formation of rust or scale. All surfaces should then be primed with Primer 500. It is mixed in the proportions supplied and applied as a thin continuous film. The primer should be touch dry but allowed to cure for no more than 24 hours at 20°C or 16 hours at 35°C before the application of Duragard 104.

Mixing

The contents of the base can should be stirred thoroughly to disperse any settlement. The entire contents of the hardener can should be stirred and added to the base container and mixed thoroughly until a uniform color and consistency are obtained, taking particular care to scrape the sides and bottom of the container. It is recommended that mechanical mixing be employed using a Jiffy mixer on a heavy duty, slow speed electric drill fitted with a Mixing Paddle. In cold weather, materials should be stored between 15°C to 20°C for 24 hours before use.

Application

Recommended number of coats	:	2
Theoretical application rate per coat	:	0.35 kg. Per m ²
Theoretical wet film thickness per coat	:	250 microns

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Over coating times

@ 5°C : 16-72 hours
 @20°C : 16-36 hours
 @35°C : 6-18 hours

Fully cured

14 days
 7 days
 6 days

The minimum application temperature is 5°C. All primed surfaces should be treated with one coat of Duragard 104. The mixed material should be applied by a nylon brush or roller to achieve a uniform coating with a wet film thickness not less than 250 microns. Any movement joints in the structure should be expressed through the coating and sealed with an appropriate sealant. Use of glass fiber reinforcement Duragard 104 may be used in conjunction with glass-fiber cloth to increase thickness or, where necessary, bridge fine cracks in the substrate. The cloth should be laid directly on the first coat whilst wet and should be pressed in (embedded) and smoothed out with a stiff nylon brush or split washer roller. A second coat should then be applied, allowing no more than 24 hours at 20°C and no more than 18 hours at 35°C between coats, and again achieving a wet film thickness not less than 250 microns. Suitable cloth is open weave 110 g/m² glass cloth is recommended.

Cleaning

Duragard 104 and Primer 500 should be removed from tools and equipment with Cemkrete Solvent 102 immediately after use. Cured material can only be removed mechanically.

Limitations

- **Duragard 104** Primer 500 are formulated for application to clean, sound concrete and steel. They should not be applied over existing coatings.
- Application should not be undertaken if the temperature is below 5°C or is 5°C and falling.
- In conditions of high relative humidity i.e. 85-90% good ventilation conditions are essential.
- **Duragard 104** is not color stable when exposed to direct sunlight, nor when in contact with some chemicals.

Estimating

Supply

Primer 500 : 10 kg. Packs
 Duragard 104 : 5 kg. Packs

Coverage

Primer 500 : 4.0 - 5.0 m²/kg.
 Duragard 104 : 3.5 m²/ kg. @ 250 microns (WFT)

The coverage figures are theoretical, due to wastage factors and the variety and nature of potential substrates, practical coverage figures may be substantially vary.

Storage

Shelf life

All products have a shelf life of 12 months if kept in a dry store between 5°C and 30°C in the original, unopened containers. If stored at high temperatures, the shelf life will be reduced.

Precautions

Health and safety

Duragard 104 and Primer 500 should not come in contact with skin or eyes, nor should they be swallowed. Avoid inhalation of vapors and ensure adequate ventilation. Some people are sensitive to resins, hardeners and solvents. Wear suitable protective clothing, gloves and eye/face protection. Should accidental skin contact occur, remove immediately with a resin removing cream such as standard grade skin cleanser or Rozaklens Industrial Skin Cleanser, followed by washing with soap and water – DO NOT use solvent. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. If swallowed seek medical attention immediately - DO NOT induce vomiting.

Fire

Duragard 104 is non-flammable. Primer 500 is flammable. Keep away from sources of ignition. No smoking. In the event of fire, extinguish with CO₂ or foam. DO NOT use a water jet.

Additional Information

Cemkrete manufactures and supplies a wide range of those complementary products which includes:

- Waterproofing membranes & waterstops
- Joint sealants & filler boards
- Cementitious & epoxy grouts
- Specialized flooring materials
- Fireproof coating and systems
- Concrete admixture
- Repairing material

For further information on any of the above, please consult your local Cemkrete office - as below.

Important Note: Cemkrete warrants its materials free of manufacturing defects and produced as per standard specifications and sold under the terms and conditions of usages, whilst Cemkrete endeavors to ensure that any advice, recommendation, or information, given through its products literatures are reflects of the R&D in-house lab test and practical sites experience and knowledge based feed backs, however, the products are being used under various conditions and applied beyond its control where or how either directly or indirectly at various locations and places at a different stages that of an intended purposes and uses. Therefore, Cemkrete cannot hold warranty or responsible for resultant consequences, such as damages to the property or assets but the product itself.