

EPIGEN 4000 SERIES

CHEMPROOF CHEMICAL RESISTANT PRODUCTS

SPD -490
REV 2-893

DESCRIPTION

Epigen Chemproof has been developed as a multipurpose coating system for the protection of all hard surfaces from the effects of corrosive chemicals. Primarily designed for use in acid proofing concrete and acid bunds, the performance of the **Chemproof 4000** series is equally satisfactory in the protection of structural steel work, sulfuric acid pump bases and various other static fixtures in contact with corrosive chemicals. The **Chemproof 4000** series consists of three grades:-

1. **4028** Binder - Suitable for use with or without aggregate to achieve one of many potential end results
2. **4029** High Build - For application to surfaces requiring only moderate thickness protection, such as structural steel and bund walls.
3. **4030** Trowellable - A non sag mortar for rebuilding heavily damaged overhead and vertical surfaces or for the provision of heavy duty surfaces.

FEATURES

- * Broad spectrum Chemical Resistance - Simple choice for complete protection.
- * Non Flammable - Reduced safety risks.
- * Contains no 7 Schedule Poisons or suspected carcinogens - Reduced health risks.
- * Unique Curing System - Excellent protection and easy curing.
- * Excellent Recoatability - Simple and easy protection and maintenance.
- * User Friendly - Application possible with minimal training.

PERFORMANCE

Epigen Chemproof has undergone substantial assessment under a wide range of corrosive chemicals. It has been found to be suitable in splash and spill applications of all concentrations of Hydroxide Salts, Acids, including Sulfuric, Nitric and Hydrochloric, as well as most petroleum and organic solvents. Under continuous immersion situations, **Chemproof** performs extremely well against high concentrations of corrosive chemicals. Fast cure versions of the 4028 and 4029 grades are available that have increased chemical resistance over the standard grades. These should be considered for use in extreme conditions of chemical activity. Specific advice on individual applications may be obtained from the Manufacturer.

Chemproof 4000 Series Profile	4028 (Binder)	4029 (High Build)	4030 (Trowellable)
Colour	White	White	White
Consistency	Medium Viscosity Liquid	Thixotropic Liquid	Non Sag Mortar
Pack Size	5.7kg	9.0kg	11.0kg
Mixing Ratio (by weight)	2 parts A to 1 part B	2 parts A to 1 part B	10 parts A to 1 part B
Specific Gravity	1.05 - 1.15	1.3 - 1.4	1.5 - 1.6
Pot Life (25°C)	30 minutes	30 minutes	30 minutes
Non Volatile Matter	100%	100%	100%
Trafficable Cure Time (@25°C)	8 - 12 hours	12 - 14 hours	6 - 8 hours
Ultimate Cure Time (@ 25°)	48 hours	72 hours	36 hours

N.B. Data on the Fast Cure (greater chemical resistance) grades of 4028 & 4029 is available on request.

APPLICATION DATA **CHEMPROOF 4028**

Providing proper surface protection to a floor or substrate is extremely important in maintaining that surfaces original characteristics. Dependant upon the area to be treated and the available labour, many different application methods may be used to obtain the required protective coating. The two most commonly used techniques are the Multicoat (spread and sprinkle) technique and Trowellable application technique.

1. Multicoat Technique - Apply one coat of **Chemproof 4028** over the area using a roller coater at a nominal coverage of 4m²/kg, followed by a dense even application of 16/30 grade silica sand at a nominal coverage rate of 5kg/m². Allow the coated surface to cure for approximately 12 hours before removing (sweep/vacuum) the excess silica sand and top coating the entire area with a second coat of **Chemproof 4028** using a roller coater at a nominal coverage rate of 1.5m²/kg. This provides a coating of approximately 2 - 2.5mm which maybe increased in thickness by repeating the application cycle.

2. Trowellable Application - Apply a primer coat of **Chemproof 4028** over the entire area using a roller coater at a nominal coverage rate of 6-8m²/kg. A trowellable mortar is then prepared by blending 1 part **Chemproof 4028** with 5 parts 16/30 silica sand and applying this directly to all primed surfaces, to the desired thickness. 10kg of trowellable mortar will have a nominal coverage of 1m² at 5mm thick.

The selection of 16/30 silica sand as the filling aggregate in both techniques is done so on the basis of internal laboratory assessment. It is envisaged that other aggregate fillers and grades may be used, but care should be taken to ensure any selected aggregates are clean and dry containing a minimum of fines.

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CHEMPROOF 4029

In many situations, corrosion protection may be achieved through the use of a simple coating of several hundred micron. Bund walls, structural steel and pump footings as examples may be coated using **Chemproof 4029**, to achieve this desired protection. Using spray apparatus, roller coaters or paint brushes, a nominal coating thickness of 500 micron has been found to be acceptable in the majority of cases, except where heavy pitting leads to excessive pinholing or porosity in the coating. In these situations, higher builds are necessary to alleviate these effects. It is recommended to always achieve the desired build using a minimum of two coats. Approximately 0.7kg of **Chemproof 4029** is required to provide an average coating thickness of 500 micron/m².

Chemproof 4029 is also a satisfactory floor sealer where ponding of corrosive liquors and foot traffic or mechanical damage is non-existent, hence it is stressed that the life expectancy of such a system is dependant totally on the application practices employed and the environment it is exposed to.

CHEMPROOF 4030

The use of this non-sag trowellable mortar is extremely beneficial in cases such as plinth repairs, resurfacing spalled concrete faces and the provision of additional surface strength in effluent drains and wet wells, especially where high strength coupled with good coating, repair of fairing capabilities are an essential feature. Using plasterer's tools, **Chemproof 4030** can be easily applied to a variety of surfaces to a thickness in excess of 5mm. It is advisable that the initial application be a prime or scratch coat that serves to wet out the substrate surface with resin, thus ensuring minimal sag when applying full builds. This also assists in the prevention of blistering of the coating when applied to hot surfaces or those exposed to direct sunlight prior to application.

Immediately after application of the scratch coat, the desired build can then be applied. For applications in excess of 5-8mm, successive coats 2-4 hours after the initial application may be required. Approximately 8kg of **Chemproof 4030** is required to provide an average coating thickness of 5mm/m².

MIXING ADVICE

Always ensure when mixing components that the prescribed mixing ratio is never varied. The mix shall be even in colour and homogenous in texture prior to use. It is recommended that mechanical stirrers be used. This is especially important for higher viscosity products. After mixing, allow the product to sit 3-5 minutes prior to use. Store both components out of direct sunlight and away from heat since warm compound will severely reduce the available use time.

PREPARATION

Always ensure the surface to which Epigen is being applied is clean and free from all contaminants and loose matter. This may be achieved by many methods, including:-

1. Sandblasting
2. Scabbling
3. Chemical Treatments
4. High Pressure Water.

For further information regarding preparatory methods, consult "Preparation of Surfaces for use with Epigen Systems" or contact your Epigen Service Office.

Coverage Fast Guide As an easy guide to calculating material consumption the following suggestions are offered as a basis from which to work. Note that consumption may vary depending upon the type of surfaces the materials are applied to as well as the work practices utilised by the applicators.

CHEMPROOF 4028 (Binder)

Multicoat Technique:
 1st coat - 4m²/kg - 0.25kg/m²
 Aggregate - 5.0kg/m²
 2nd coat - 1.5m²/kg 0.66kg/m²

Include the following additional coats to improve trafficability and impact resistance in heavy duty applications:

Aggregate - 5.0kg/m²
 3rd coat - 1.5m²/kg 0.66kg/m²
 # Continue cycles for increased thickness as required.

Trowellable Technique:
 Prime coat - 8m² - 0.125kg/m²
 Mortar preparation consisting of 1 part Chemproof 4028 blended with 5 parts 16/30 silica sand with 10kg = 1m²/5mm thick.
 Chemproof 4028 required = 1.7kg/m²
 Aggregate required = 8.3kg/m²

CHEMPROOF 4029 (High Build)
 1.3kg = 1m² / mm thick
 0.65kg = 1m² / 500 micron

CHEMPROOF 4030 (Trowellable)
 8.0kg = 1m² / 5mm thick.

CLEANING

Prior to curing, **Epigen Chemproof** should be cleaned from all tools and equipment using Epigen Diluent. Soap and water or a good quality hand cleaner may also be used. Do not use solvents to clean contaminated areas of the body, such as hands etc.

STORAGE

Store both components out of direct sunlight and away from heat since warm compound will severely reduce the pot life. Whilst the shelf life of the individual components is indefinite in their original unopened containers, prolonged storage may result in some settling and attention should be paid to this when mixing.

SAFETY

Protective gloves, coveralls and glasses should be worn when using epoxy resins and their curing agents. If eye irritation occurs hold eye open and irrigate with water for 15 minutes and see a Doctor. Should skin contact occur wash contaminated areas with soap and water. Avoid the use of solvents as a person cleaning aid. Contaminated clothes should be laundered before re-use. When working in confined or enclosed areas, introduce a source of ventilation (eg: exhaust fan).

WARRANTY

The information contained in this data sheet, is to the best of our knowledge true and correct, but recommendations are made without guarantee, since conditions of use are beyond our control. Furthermore, nothing contained herein should be construed as a recommendation to use this product in conflict with existing patents.

EPIGEN EPOXY RESIN BASED PRODUCTS
MANUFACTURED BY PEERLESS INDUSTRIAL SYSTEMS PTY LTD