Anti Corrosive Cements for Surface Protection

COROPHEN

PHENOLIC CEMENT

TECHNICAL INFORMATION SHEET

For Acid / Alkali Resistant Protective lining of Process Vesssels, Reactors, ETP Tanks, Floors, Drains, etc.

INTRODUCTION

COROPHEN Phenolic cement is a two component cement based on Phenol Formaldehyde Resin & a blend of inert finely divided fillers. It is generally recommended for protection against acids & solvents. It can withstand temperatures up to 130^{0}C (160^{0}C for short periods). COROPHEN (Carbon filled) is two component cement based on phenolic resin and graded carbon fillers. The latter fillers is used where the cement has to stand hydrofluoric acid, hydrofluoric Silica acid, etc., where the normal based filler is not resistant.

AREA OF APPLICATION

COROPHEN Phenolic cement exhibits excellent resistance to Sulphuric acid, Hydrochloric acid and other mineral acids, solvents and detergents. It can even resist Sulphuric Acid upto 70% concentration and hence is an ideal choice for laying and pointing of ceramic tiles in areas of high concentration of Acids. COROPHEN (Carbon filled) should be used where Hydrofluoric, Hydrofluoric Silica acids etc., are incountered. COROPHEN cement is not recommended for use with alkalies, alkaline salts and strong oxidizing acid like Nitric Acid, Chromic Acid etc.

PRETREATMENT OF SURFACE

The concrete / metal surface should be thoroughly cleaned to ward off rust and other foreign particles either by sand blasting or conventional methods of cleaning. The cleaned surface should be applied with a protective monolithic membrane.

The selection of the protective membrane depends upon the temperature and chemical condition. The cement should not, under any conditions, be directly applied on to the metal or concrete surface because of the presence of the acid catalyst.

MIXING RATIO

COROPHEN is supplied in two components: Powder & Resin. Three Parts of Powder should be added to one part of Resin to form a workable mortar. The above ratio is recommended but small adjustments can be made depending on the application.

APPLICATION

COROPHEN resin and powder should be mixed in a dry, clean pan and in small batches which can be consumed with in 25- 30 minutes. Take Resin in a pan and add powder gradually while mixing with a trowel. Continue mixing until a homogeneous mortar is obtained.
The surfaces being lined and also the Bricks/ Tiles shall be dry and clean devoid of dirt, oil and other foreign particles.

Apply COROPHEN cement on the back and adjacent side of the tile / brick and spread it evenly with a trowel. The bricks shall be laid in sliding motion and tamp the bricks or tiles so that mortar comes up in the joints. This ensures that the mortar is thoroughly filled in the joints without any air pockets. Scrape off any surplus material immediately with a trowel.

When bricks, tiles or stones are laid with Corocem 'K' Potassium Silicate cement and only the joints are required to be filled in with COROPHEN cement, the joints should be raked out to the desired depth and should be cleaned carefully free from dust or loose particles by means of a brush or compressed air blast prior to filling with the compound

Setting & Hardening :

The rate of setting and hardening is markedly influenced by the prevailing temperature. The mixed compound begins to set in about two hours and is hardened after about 6-8 hours at a temperature of about 25^{0}C .
Tiled surface and masonry linings cemented with COROPHEN cement should be allowed to cure for 48 hrs after completion.

SAFETY PRECAUTIONS DURING USE

It is recommended that Protective hand gloves and goggles should be worn while working with the cement. If it comes in contact, with the skin or eyes, it should be washed with plenty of water and consult a doctor if necessary.

SHELF LIFE & STORAGE

COROPHEN Phenolic Resin is susceptible to temperature. Under room temperature conditions polymerisation of the liquid starts and the liquid will gel making it useless for application. Hence store the liquid in a cold storage (5^{0}C) when not in use.
COROPHEN Powder has a shelf life of 12 months when stored in cool and dry place. Care should be taken that the powder and resins should be tightly packed and stored in a dry place not exposed to sunlight.

PACKING

COROPHEN Resin is supplied in containers of 20 kg, 40 and 250 kg. Powder is supplied in 50 Kgs HDPE Bags.

Note : The information given in this leaflet is based on results gained from the experience and test. However, all recommendations and suggestions are made without any guarantee as the conditions of use are beyond our control.

PSK Corofrac Linings Pvt. Ltd.

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COROPHEN

PHENOLIC RESIN CEMENT

PHYSICAL CHARACTERISTICS :

Working Time, Min	…….	20 Minutes.
Flexural Strength , Min., Kg/cm^2 (at 7 days)	…….	75
Compressive Strength Min. Kg/cm^2 (at 7 days)	…….	350
Bond Strength , Min., Kg/cm^2 (at 7 days)	…….	10
Absorption Max. Percentage by weight	…….	1

CHEMICAL RESISTANCE CHART

ACID & ALKALIES	COROPHEN
ACETIC ACID (Any Strength)	R
AMMONIA(0.88%)	LR
AMMONIUM SULPHATE	R
CALCIUM HYDROXIDE	R
CHROMIC ACID (10%)	LR
HYDROCHLORIC ACID	R
HYDROFLUORIC ACID	LR
LACTIC ACID (2%.)	R
NITRIC ACID (10%)	LR
PHOSPHORIC ACID	R
POTASSIUM CHLORIDE	R
SODIUM CARBONATE	R
SODIUM HYDROXIDE	NR
SULPHURIC ACUD(30%)	R
SULPHURIC ACID (50%)	R
SULPHURIC ACID (70%)	R

SOLVENTS	
ALCOHOLS	R
ALIPHATIC HYDROCARBONS	R
CONC. AROMATIC HYDROCARBONS	R
CHLORINATED HYDROCARBONS	R
KETONES	LR

KEYS:

R = RESISTANT

NR = NOT RESISTANT

LR = LIMITED RESISTANCE, IN CERTAIN CASES, CONSULT YOUR SUPPLIER.

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