MOON
CONSTRUCTION
ADDITIVES

PROVIDING

PROFESSIONAL

PRODUCT & CONSULTANCY

SERVICES SINCE 2007

ABOUT US

Moon Construction Additives was Established in the year 2007 with an aim of providing cost-effective corrosion protection technologies / systems for protection of steel reinforcement rods used in New Concrete Construction to enhance its durability. User Friendly Cement Polymer Anticorrosive Coating and Corrosion Inhibitor was offered in this regard. Later introduced Construction Polymers for use in application areas viz. waterproofing of Sunken slabs, Terrace Slabs, Underground Sumps; Old to new bond coat; Waterproofing Cement mortar / concrete screed etc.

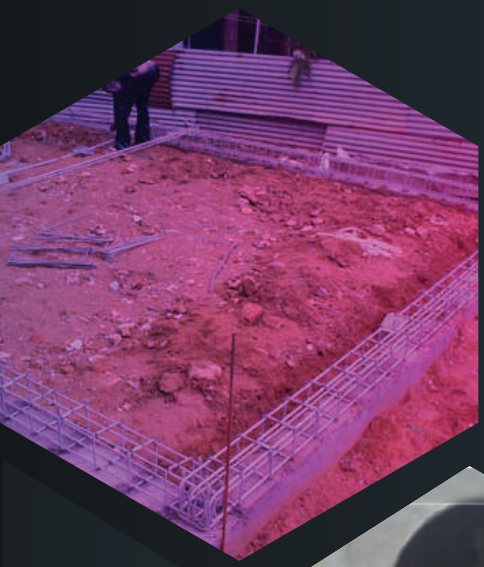
Moon Construction Additives has clear cut Vision and Mission and Constantly improves the quality of product through academic association with premier Institutions and from self experience.

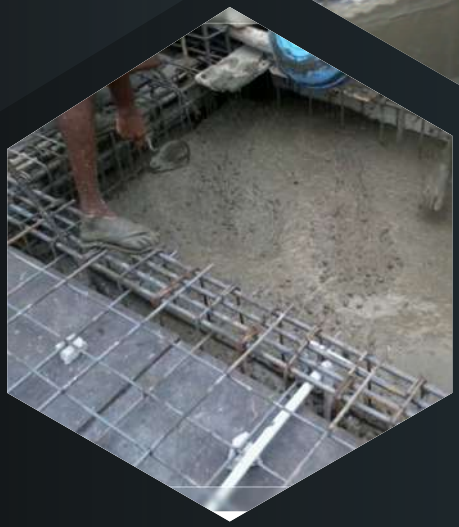
Vision

To Become an Organization of Repute in suggesting measures for Durable Concrete Construction and Providing solution for Repair, Rehabilitation and Retrofitting of Structures which are Technically sound, Feasible and Affordable by a Common Man.

Mission

- To Provide Systems for Corrosion Control of Steel Rebars in New Construction.
- To Provide Waterproofing Systems / Techniques to Enhance Durability of New Construction.
- To Conduct Condition Assessment, Prepare Technical Report and Provide Feasible and Affordable solution for Repair & Rehabilitation of Buildings.
- To Provide Long-term Durable Solutions for Corrosion Distressed RCC Structures by Adopting Innovative Techniques.
- To Carryout Durability Audit on Ongoing Construction Projects.





OUR WORKS

- Providing Solutions for Building Durability from 2007.
- Solution Providers for Durable Buildings at an Affordable Cost.
- Solution Providers for Durable Buildings and Structures.
- Scientific Solutions for Technical Problems.
  Feasible Techniques and Solutions at an Affordable Cost.
- We Create Durable Buildings.
- Not Just Selling Products; But Caring through Technical Advice.

CORROCON – CPAC™

NEED FOR CORROSION PROTECTION

Corrosion of Steel in Concrete is the major problem faced by the Construction Industry. Until recently durability and performance of Reinforced concrete structures were taken for granted because of the belief that a high grade of concrete with higher alkalinity and higher electrical resistance offered by the concrete cover will provide good protection to the embedded steel. However, the corrosion of reinforcing steel in concrete exposed to aggressive environment affects the life of concrete. Because corrosion of steel in concrete is electrochemical in nature and even a small amount of chloride and subtle changes in pH can sustain the corrosion process. The major cause for the corrosion of steel in concrete is the presence of chloride and carbonation. Baring external environmental conditions, the presence of small amount of chlorides in the mixing water, sand and coarse aggregate is sufficient enough to promote corrosion of steel rods inside the concrete.

CEMENT POLYMER ANTICORROSIVE
COATING FOR
STEEL REINFORCEMENT RODS

CPAC™

CORROCON-CPACTM – Cement Polymer Anticorrosive Coating System

The CORROCON-CPACTM Anticorrosive Coating system is the simple, cost effective and performance oriented process for corrosion protection of steel reinforcement rods in concrete. The coating can be done at the construction site itself after the rods are cut and bent to shape. CORROCON-CPACTM Anticorrosive coating system is suitable for execution even from the small and congested construction sites to the major civil works.

APPLICATION PROGRAM

STEP: 1: Removal of Loose rust and scales if any from the rod surface by steel wire brush cleaning or any suitable method. In case of large quantities of heavily rusted rods, sand blasting or inhibited acid pickling can also be done. The rods shall be free from oil or grease.

PRODUCT NAME

CORROCON – CPAC™

NATURE

Polymeric Anticorrosive

COVERAGE

15 – 20 Ltrs. per M.T of Steel

Standard Packing

30 Ltrs. HDPE Cans

VIEW OF AN UNCOATED RUSTED FABRICATED RODS (A) & CORROCON–CPACTM COATED RODS (B)

(A) (B)

STEP: 2: **CORROCON – CPAC** solution shall be mixed with Ordinary Portland Cement (mix ratio : 1ltr of **CORROCON** solution with 2-2.5 kg of cement) to make a brushable anticorrosive cement slurry. Apply this slurry on the reinforcement rods by an ordinary paintbrush. The coating shall be allowed to dry for 4-8 hours depending on the climatic conditions. Upon complete drying apply plain solution of **CORROCON** as a finishing coat. The rods can be handled after 30 minutes. For extended rods, which are left for future expansion, apply additional anticorrosive slurry coat for maximum protection.

SALIENT FEATURES

Performance Evaluation Standards: BIS 13620 – 1993, Annex A A-2.2, A-3.3,A-5.5, A-7.3
ASTM A775/A775 M – 2001,Annex A-1.3.1,A-1.3.8

- The coating possesses the necessary Corrosion resistance properties as per Indian Standards.
- **CORROCON – CPAC™** coated bars possess the necessary Bond strength development with concrete as required by the Indian Standards.
- The coating has the necessary Impact Resistance properties as required by the Indian Standard and ASTM.
- The coating has the ability to withstand the working stresses when the reinforcement rods are subjected to tension.
- The coating has to be applied after cutting and bending operation is over.

STORAGE AND HANDLING

The coated rods shall be stacked off the ground on wooden planks or supports. The coating has excellent Impact resistance properties and does not peel off during normal handling at site. In case of any damage the damaged area shall be applied with the same anticorrosive cement slurry used for coating.

MOONCRETE - CI™

DESCRIPTION

MOONCRETE - CI™ is a Nitrite based corrosion-inhibiting admixture for protection of steel in reinforced cement concrete structures.

USES

- RCC structures exposed to marine environment and chloride contaminated ground water.
- All RCC structures including precast/prestressed and post tensioned applications to improve durability.
- RCC structures exposed to corrosive industrial environment.

ADVANTAGES

- Provides effective corrosion protection for steel reinforcement rods against chlorides in concrete.
- Extends the service life of reinforced concrete structures.
- Improves the workability of concrete at the same water-cement ratio.

PROTECTION MECHANISM

In the alkaline environment of the concrete, a natural passive ferric oxide layer forms on the surface of the embedded reinforcement rods and protects the steel from corrosion. This passive layer may break down in the presence of chlorides and moisture resulting in corrosion of the steel reinforcement.

MOONCRETE - CI™ admixture delays corrosion by repassivating defects on the steel surface. These defects are ferrous oxide ions that are susceptible chloride attack. When chloride ions attack the ferrous ions, they combine to create a ferrous chloride complex (rust) and initiate pitting corrosion on the reinforcement rods.

If untreated, chloride ions continue to attack newly exposed ferrous ions and form additional expansive corrosion products leading to staining, cracking and spalling of the concrete.

Nitrite ions contained in MOONCRETE - CI™ are effective in converting the ferrous oxide ions in to more

Typical Properties

Colour: Dark brown free flowing liquid

Relative Density : 1.16 at 250C

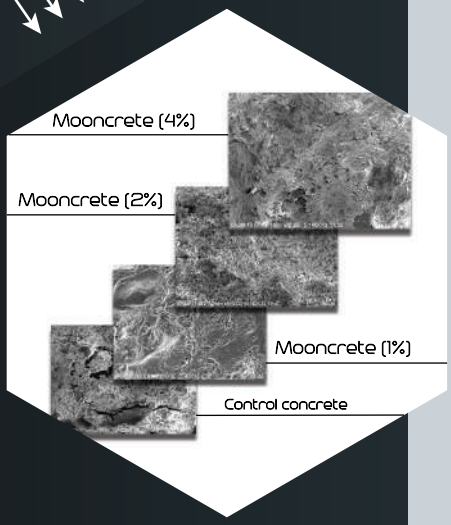
Solids by weight: < 25%

pH: 11.10

MOONCRETE – CI™

Corrosion Inhibiting Admixture

SEM pictures showing Improved Micro Structure of MOONCRETE Concrete



stable ferric oxide ions before chloride ions react with them. This oxidation reaction repassivate the reinforcing steel and re-establish the barrier between the steel and chlorides that initiate corrosion. Moreover, MOONCRETE - CI™ admixture repels the entering chloride ions due to charge similarity and thereby increase the threshold chloride content required to initiate corrosion. MOONCRETE - CI™ admixed concrete specimens exposed to severe chloride environment for two years and tested as per ASTM G109 - 07 also reveals up to 50% reduction in chloride level near rebar surface as compared to control concrete specimens.

COMPATIBILITY

MOONCRETE - CI™ admixture may used with Portland cements and mineral admixtures approved under BIS, ASTM and AASHTO specifications. In general it is compatible with other chemical admixtures, including water reducers, superplasticizers, retards and air entrainers. It is advisable to add chemical admixtures separately to concrete to ensure desired results. It is recommended to conduct trail test to confirm compatibility if more than one admixture is added to the concrete in the real site conditions.

DOSAGE

MOONCRETE - CI™ is recommended to add at a rate of 1-2 liter per bag of cement depending upon the severity of corrosion environment and the anticipated chloride loading on the structure.

PACKAGING & SHELF LIFE

MOONCRETE - CI™ admixture is available in 5 Liter, 30 Liter and 100 Liter HDPE cans. Shelf life is 12 months when stored under standard conditions.

SAFETY PRECAUTIONS

Care should be taken during use and storage to avoid contact with eyes, mouth, skin and foodstuffs. Treat splashes to eyes and skin immediately. If accidentally ingested, seek immediate medical attention. Keep away from children and animals. Reseal containers after use.

POLYPRO – WP™

NEED FOR WATERPROOFING

Waterproofing of R.C.C. elements has become a challenge for the Civil Engineers all over the world. The reason being, most of the buildings are high-rise with multistoreyed car parking facilities, basement, terrace gardens and swimming pools at various levels besides a flat open terrace. The factors that add to the existing complications are the adoption of speedy design and construction practices, demand for quality sand and coarse aggregate, improper curing, bad workmanship etc. Multi-storeyed buildings constructed a few years back are in need of repair and rehabilitation from leaky roof, sunken slab leakage, dampness in wall etc. The conventional way of waterproofing the R.C.C. elements are inadequate and needs adoption of good waterproofing methodologies in the construction stage itself to safeguard the structures from premature distress and subsequent deterioration.

POLYPRO-WP™ is an acrylic based polymer used for formulating cementious composite system.

POLYPRO - WP™ is mixed with ordinary Portland cement (mix ratio: 1part POLYPRO - WP with 1.5 - 2 kg. cement) and applied over cement mortar / cement concrete surface as a protective coating. This coating exhibits excellent adhesion to the mother concrete / mortar surface; improved flexural strength and adequate impact resistance. Also provides excellent resistance against water absorption and permeability.

POLYPRO - WP™ is admixed with cement mortar / cement concrete at 500 - 2000ml per bag of cement to make a flexible waterproofing screed / layer which offers excellent resistant against water penetration in high water exposure areas.

TYPICAL APPLICATION AREAS

- Waterproofing of terrace, sunken slabs, sloped roofs, roof garden areas, water tanks and reservoirs.
- Waterproofing of parking structures, pre-cast slabs and pavements.
- Waterproofing of parapet walls, brick masonry, cement plastered surfaces.
- Protective coating for R.C.C. and pre-stressed concrete surfaces in aggressive environment.

POLYPRO – WP™

Nature : Acrylic based Polymer

Shelf Life : 6 months

Coverage : 30 – 40 Sq.ft/Ltr/coat

Standard Packing : 5 Ltr., 30 Ltr.. HDPE Cans

POLYPRO – WP™

POLYMER CEMENTIOUS WATERPROOFING COATING

- Old to new concrete bond coat in repair and rehabilitation works.
- To provide flexible waterproofing screed in high water exposure areas.

APPLICATION PROCEDURE

For Protective Waterproofing Coating

- Removal of all dust, dirt, loose particles, oil, grease, bituminous coat etc. from the mortar / concrete surface.
- Filling of surface cracks with **POLYPRO-WP™** modified paste. (Mix ratio - 1 part cement : 1 part **POLYPRO-WP** : 3 parts **POLYPRO-WP** powder)
- Damping the concrete / mortar surface with **POLYPRO-WP™** modified water. (Mix ratio - 1 ltr. **POLYPRO-WP** : 25 ltr. water)
- Application of two coats of **POLYPRO-WP™** mixed cement slurry at the interval of 6 hours (Mix ratio - 1 ltr. **POLYPRO-WP™**: 1.5 – 2 kg cement)

For Flexible Waterproofing Screed

- Removal of all dust, dirt, loose particles, oil, grease, bituminous coat etc. from the mortar / concrete surface.
- Filling of surface cracks with **POLYPRO-WP™** modified paste. (Mix ratio - 1 part cement : 1 part **POLYPRO-WP** : 3 parts **POLYPRO-WP** powder)
- Damping the concrete / mortar surface with **POLYPRO-WP™** modified water. (Mix ratio - 1 ltr. **POLYPRO-WP** : 25 ltr. water)
- Preparing **POLYPRO-WP** modified mortar / concrete (Dosage : 500 ml - 2000 ml. per bag of cement) for a given mix ratio and laying it with a desired slope.

NOTE

After 6 hours of application of final coat, moist curing shall be done for 24 hours by spraying with water followed by 2 days air curing

POLYPRO – WP™

SUNKEN SLAB WATERPROOFING

SLOPED ROOFS WATERPROOFING

TERRACE WATERPROOFING

POLYPRO – 786™

INTRODUCTION

Waterproofing of potential components of reinforced concrete structures is necessary to provide comfort to the inhabitants (i.e., to maintain servicibility conditions) and also to save structure from premature distress and deterioration due to corrosion of steel inside concrete. Nowadays, waterproofing of R.C.C. elements poses a challenge to engineers due to construction of high-rise buildings with multistoreyed car parking facilities, basement, terrace gardens and swimming pools at various levels besides a flat open terrace. Even in individual house construction, terrace garden, sloped roof, thin elements and swimming pool becomes a common feature. The factors that add to the existing complications are the adoption of speedy design and construction practices, demand for quality sand and coarse aggregate, improper curing, bad workmanship etc. The result is buildings constructed a few years back are in need of repair and rehabilitation from leaky roof, sunken slab leakage, dampness in wall etc. The conventional way of waterproofing the R.C.C. elements are inadequate and needs adoption of proven waterproofing methodologies in the construction stage itself to safeguard the structures from premature distress and subsequent deterioration.

POLYPRO–786

Nature : Copolymer of Styrene and Acrylate

Shelf Life : 6 months

Coverage : 30 – 40 Sq.ft/Ltr/coat

Standard Packing : 5 Ltr., 30 Ltr.. HDPE Cans

POLYPRO – 786

CEMENT WATERPROOFING ADMIXTURE

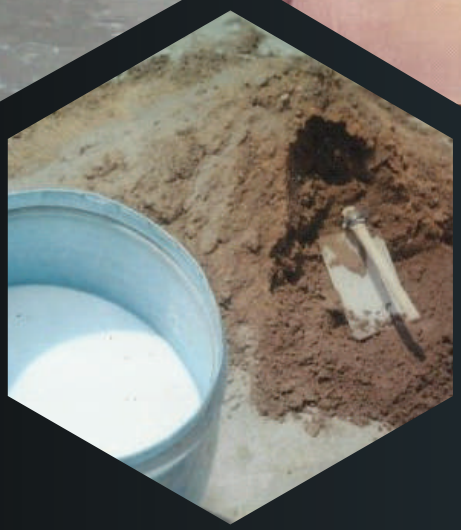
POLYPRO-786

POLYMER CEMENT WATERPROOFING ADMIXTURE

- **POLYPRO-786** is a dispersion of copolymer of styrene and acrylate is used for formulating various cementious composites for applications which requires excellent waterproofing and strength properties.
- **POLYPRO - 786** is admixed with cement mortar / concrete at 500 - 2000 ml. per bag of cement to make a flexible waterproofing screed / layer which offers excellent resistant against water penetration in high water exposure areas.
- **POLYPRO - 786** is mixed with cement and POLYPRO - 786 powder component (Mix ratio - 1 : 2) to produce high strength mortar for concrete crack repair.
- **POLYPRO - 786** with ordinary Portland cement (mix ratio: 1part **POLYPRO - 786** with 1.5 - 2 kg. cement) is applied over cement mortar / cement concrete surface as a protective coating. This coating exhibits excellent adhesion and impact resistance properties. Also offers appreciable flexural strength and high resistance against water absorption and permeability.

NOTE

After 6 hours of application of final coat, moist curing shall be done for 24 hours by spraying with water followed by 2 days air curing



TYPICAL APPLICATION AREAS

- To provide flexible waterproofing screed in high water exposure areas.
- High strength mortar for concrete crack repair
- Waterproofing of terrace, sunken slabs, sloped roofs, roof garden areas, water tanks and reservoirs.
- Waterproofing of parking structures, pre-cast slabs and pavements.
- Waterproofing of parapet walls, brick masonry, cement plastered surfaces.
- Protective coating for R.C.C. and pre-stressed concrete surfaces in aggressive environment.
- Old to new concrete bond coat in repair and rehabilitation works.

APPLICATION PROCEDURE

For High Strength Waterproofing Screed

- Removal of all dust, dirt, loose particles, oil, grease, bituminous coat etc. from the mortar / concrete surface.
- Filling of surface cracks with **POLYPRO-786** modified paste. (Mix ratio - 1 part cement : 1 part **POLYPRO-786** : 3 parts **POLYPRO-786** powder)
- Damping the concrete / mortar surface with POLYPRO-WPTM modified water. (Mix ratio - 1 ltr. POLYPRO-786 : 25 ltr. water)
- Preparing POLYPRO-786 modified mortar / concrete (Dosage : 500 ml - 2000 ml. per bag of cement) for a given mix ratio and laying it with a desired slope.

For Protective Waterproofing Coating

- Removal of all dust, dirt, loose particles, oil, grease, bituminous coat etc. from the mortar / concrete surface.
- Filling of surface cracks with **POLYPRO-786** modified paste. (Mix ratio - 1 part cement : 1 part **POLYPRO-786** : 3 parts **POLYPRO-786** powder)
- Damping the concrete / mortar surface with **POLYPRO-786** modified water. (Mix ratio - 1 ltr **POLYPRO-786** : 25 ltr. water)
- Application of two coats of **POLYPRO-786** mixed cement slurry at the interval of 6 hours (Mix ratio - 1 ltr. **POLYPRO-786** : 1.5 - 2 kg cement)

For further information please contact

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