ISO American Global Standards
Certified ARMSTRONG's Product

ROOFPLAX SP 300 ™

High strength reinforcement protection
super plasticizing and water reducing admixture
Complies with IS 9103-99

DESCRIPTION OF THE PRODUCT :

ROOFPLAX SP 300 is single component liquid reinforcement protection super plasticizing and water reducing admixture.

How Reinforcement Corrosion takes place and Concrete Deteriorates

Water ingress is a major contributor to many of the concrete related problems that cause deterioration of concrete within concrete structures. These include corrosion, chlorides, carbonization, alkali-silicate reaction, freeze/thaw, and chemical attack.

Water Ingress and Corrosion

The two most common causes of reinforcement corrosion are (i) localized breakdown of the passive film on the steel by chloride ions and (ii) general breakdown of passivity by neutralization of the concrete, predominantly by reaction with atmospheric carbon dioxide. Sound concrete is an ideal environment for steel but the increased use of deicing salts and the increased concentration of carbon dioxide in modern environments principally due to industrial pollution, has resulted in corrosion of the rebar becoming the primary cause of failure of this material. The scale of this problem has reached alarming proportions in various parts of the world.

Corrosion deterioration in concrete normally occurs due to an electrical reaction caused by exposure of the reinforcing steel to oxygen and moisture. When the iron in the steel oxidizes, it expands, and causes tensile stress in the concrete until eventually the concrete cracks or spalls. As the cracks and spalls begin to occur increased amounts of water and oxygen access the reinforcing steel increasing the rate of corrosion and accelerating the deterioration effects. Stopping water ingress will also stop the effects of corrosion on the reinforcing steel thereby preventing tensile stress cracks and spalling.

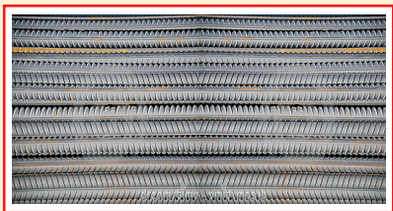
Water Ingress and Chlorides

When a concrete structure is often exposed to deicing salts, salt splashes, salt spray, or seawater, chloride ions from these will slowly penetrate into the concrete, mostly through the pores in the hydrated cement paste. The chloride ions will eventually reach the steel and then accumulate to beyond a certain concentration level, at which the protective film is destroyed and the steel begins to corrode, when oxygen and moisture are present in the steel-concrete interface. Even high alkalinity will have minimal abilities to reduce deterioration. If water ingress is stopped even cast in chlorides will not deteriorate the concrete.

Water Ingress and Carbonization

Corrosion can also occur even in the absence of chloride ions. Carbonization is a chemical reaction between carbon dioxide in the air and the calcium hydroxide in the hydrated cement paste and with the presence of moisture reduces the pH of the concrete through the creation of carbonic acid. Over time this process will lower the pH as low as 8.5 of the concrete thereby permitting corrosion of the embedded steel. By stopping water ingress the effects of carbonization can be dramatically reduced.

ROOFPLAX SP 300 designed by studying the corrosion behavior of pre-stressing steel embedded in high strength concrete in consultation with various institutions like ESRI for remedial measures to control the corrosion and to protect the reinforcement effectively and permanently their by protecting structure to its full life cycle.




FEATURES AND ADVANTAGES

- Highly corrosion resistant admixture.
- Provides high early strength.
- Binds with iron rebar in the concrete and protects against corrosion.
- Makes concrete water tight.
- Increases workability of concrete mix and producing pumpability.
- Provides excellent bonding adhesion with concrete to reinforcement.
- Highly crack resistance.
- Economical when compared with epoxy coatings to the rebars, surface coatings on the concrete structures etc.
- Non-toxic.

TYPICAL APPLICATIONS

- Used in heavy reinforced concrete structures more specifically bridge decks, tunnels, piles, foundations, towers, barrages, dams etc...
- Water retained structures
- Concreting in hot climates
- Structures at coastal areas
- Structures at industrial and environment pollution
- Pre-cast slabs

TECHNICAL CHARASTARISTICS

1. No. of components	Single component
2. Colour	Light Golden Yellow
3. Spacific gravity at 30°C	1.150 + 0.020 gmlcc
4. Consistancy	Medium Viscous Liquid
5. Compatibility	Compatibly with all grades of Portland cement.
6. Chloride content	NIL

DOSAGE : 200 ml to 500 ml per bag of 50 kg. cement.

Directions for Use : Stir well the material before use.

SHELF LIFE : 2 years

PACKING : 1, 5, 10, 20, 30 & 210 Liters

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Manufacturers :

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An ISO 9001 : 2008 Certified Company

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