

TANK COATING

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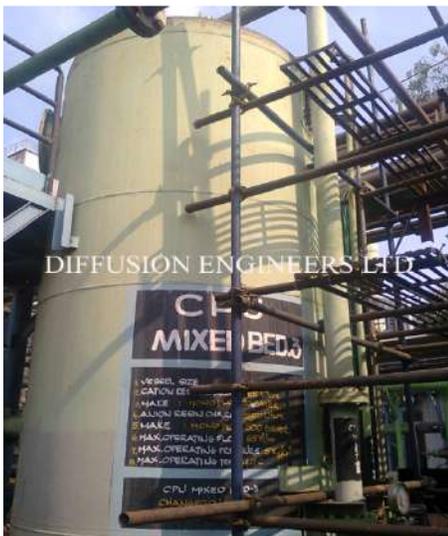


BY DIFFCOR

INTRODUCTION:-

In paper industry raw water which is use for steam generation should be free from organic ions (such as carbonate and bicarbonate) ; inorganic ions (such as Na, SiO₂) & dissolved gases (such as CO₂ , NO₂, Free Chlorine). When water is heated to produce steam, such ions create corrosive of metal and reduces the steam quality. These ions create scaling of metal surface by decreasing boiler efficiency.

To remove these impurities ion exchange and other process are used. As there are cations and anions in the water, two different types of resins are use, a cation exchanger and an anion exchanger. This combined arrangement produces pure water. Demineralization is also called deionization. The cation resin is used in the hydrogen form (H⁺) and the anion resin in the hydroxyl form (OH⁻), so that the cation resin must be regenerated with an acid and the anion resin with an alkali.



PROBLEM AT ITC PLANT:-

Acids are chemical compounds having less pH value. PH is a measure of the hydrogen ions present in a solution which are available to attack and degrade materials. Organic acids contain carbon and mineral acids contain elemental metals. Hydrochloric acid, hydrofluoric acid and sulfuric acid attack and degrade rubber.

Alkalis are chemical compounds with a pH of greater value and have high numbers of hydroxide ions present in solution. Sodium hydroxide is a strong alkaline base and is harmful to rubber, especially at elevated temperatures.

During ion exchange process HCl acid and NaOH are use in tank which causes cracks and damage in rubber lining (shown in following images). As the cracks are generated on rubber lining the corrosive media attack to base metal and corrosion starts below rubber lining.



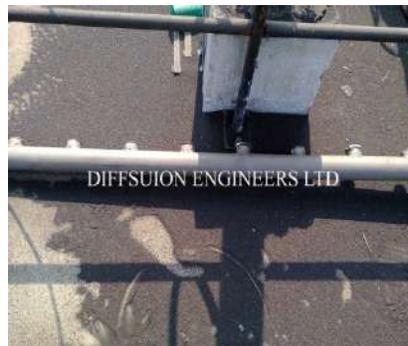
Damage of Rubber Lining

PRODUCT RECOMMENDATION:-

DIFFGLASS XTREME:- DIFFGLASS XTREME , a heavy-duty lining system for concrete and steel substrates that offers unique combination of vinyl ester novolac resin with Glassflake reinforcement and inert mineral fillers produce a dimensionally stable coating with extremely low permeability and ideally suited for immersion service ,splash/spillage exposure of concentrated acids and aggressive solvents.

APPLICATION PROCEDURE:-

Surface Preparation by Grid Blasting:-





Surface Preparation is done by Grit Blasting

Coating:-

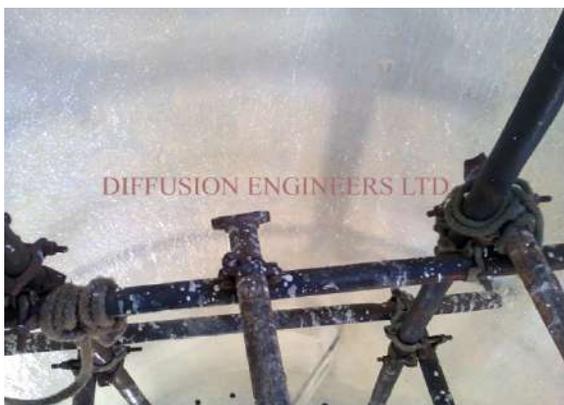
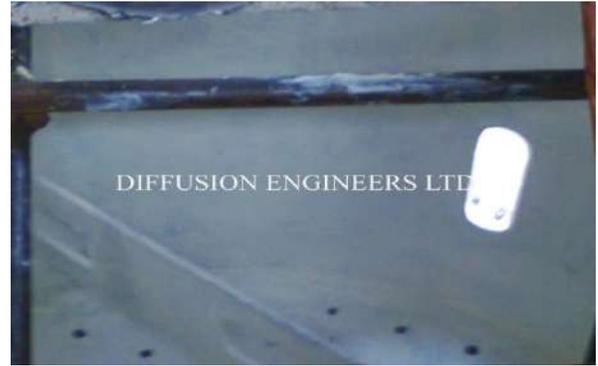
After Surface Preparation Priming is done along with velicoat system.



Priming is done along with velicoat



To give resistance against Acid and Alkali in tank coating is done by **DIFFGLASS XTREME**.



Application of **DIFFGLASS XTREME**

ACKNOWLEDGEMENT:

AREA ENGINEER:

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