

# SHALIMAR'S KAVASSU L&TTCI CORROSION INHIBITOR

## INTRODUCTION

SHALIMAR SEAL & TAR PRODUCTS PVT. LTD. is pioneer in Manufacturing / Marketing well known Shalimar brand high performance construction chemicals and waterproofing products. Various product segments are given below :

- WATER REDUCING ADMIXTURES (PLASTICIZERS & SUPER PLASTICIZERS)
- CURING COMPOUNDS
- INTEGRAL CEMENT WATERPROOFING COMPOUNDS
- JOINT FILLERS/SEALANTS
- FOAMING/RETARDERS/ ACCELERATING/ AIR ENTRAINING AGENTS/ HYPER PLASTICIZERS
- GROUTS & ANCHORS
- INDUSTRIAL FLOORINGS
- INSULATION PROTECTION
- SILICON SEALANTS
- ADHESIVES/TILE GROUTS
- WATERPROOFING CEMENTITIOUS
- ACRYLIC WATERPROOFING COATINGS
- DAMP PROOFING COARSE/EXTERNAL WALLS SEALANT
- PRIMERS/MISLENEOUS COATINGS
- ROAD EMULSION/FILLERS/GENERAL & IND. BITUMEN
- APP & SBS MODIFIED MEMBRANES & BITUMEN FELTS
- ANTI CORROSIVE/RUST REMOVER & CONVERTOR COATINGS

All products are manufacturing by India's biggest Plant of its kind. M/s. Shalimar Seal & Tar Products Pvt. Ltd., an ISO 9001, 14001 & 45001 accredited company having a highly equipped in-house Research & Development laboratory with ultra modern facilities for manufacturing a quality product under technical guidance & specifications provided by both Shalimar Seal & Tar Products Pvt. Ltd. & M/s. Kavassu International Pvt. Ltd. Products are backed by innovative GTX Technology. All products are timetested with varying climatic conditions through out India and have got very strong history of service and case studies in various application areas viz-a-viz construction of Buildings, Factories, Harbors, Dams, Canals, Bridges Atomic, Thermal, Hydel Power projects, Tunnels, Sub-way Boxes, Tube Railways, Roadways, NHAI etc. Shalimar's have got a wide range of products includes some special products, which are obviously not in our product range because of their end use in specific applications. Details can be provided on request. All products are manufacturing by using indigenous as well as imported raw materials to meet out the international quality standards & design to combat water and dampness in structures. All products are easy to use, environment eco-friendly and provide the user a very cost-effective remedy to sort out the problems, which unless and until considered unsolvable.

## POWDER FORM CORROSION INHIBITOR

### GENERAL

**Shalimar's Kavassu L&TTCI Corrosion Inhibitor** reduces corrosion by acting as a barrier and by forming an adsorbed layer or retarding the cathodic & the anodic or both processes. It has a very high vapour pressure. These vapours have an affinity towards the embedded reinforcement steel rebars and they migrate through the densest concrete to reach the reinforcement steel rebars and form a mono molecular laver on the reinforcement steel rebars. This layer effectively breaks the cycle of corrosion it, at both the poles (anodic and cathodic) simultaneously.

### DESCRIPTION

**Shalimar's Kavassu L&TTCI Corrosion Inhibitor** is used in all types of waterproofing and concrete corrosion protection, water storage tanks, roofs, building structures, pile concrete, super structures, pavement quality concrete, shotcreting, reservoirs, dams, marine structures, swimming pools, tunnels, etc.

Cathodic inhibitor present in **Shalimar's Kavassu L&TTCI Corrosion Inhibitor** slow down the cathodic reaction due to decrease in oxygen concentration caused by adsorbed film which is a diffusion barrier to oxygen. Actually this increases circuit resistance thereby restricting the diffusion of reducible species to the cathodes.

Anodic inhibitors present in **Shalimar's Kavassu L&TTCI Corrosion Inhibitor** prevent metal corrosion by anodic passivation. They play vital role in decreasing corrosion current density ( $i_{corr}$ ).

**Shalimar's Kavassu L&TTCI Corrosion Inhibitor** is able to penetrate the concrete due to high vapour pressure it possesses & block both the cathodic and anodic sites. This is especially advantageous in reinforced concrete due to presence of micro cell corrosion.

# SHALIMAR'S KAVASSU CORROSION INHIBITOR



## CHEMISTRY

It provides protection due to film formation by adsorbed layer inhibition at both cathode and anode. Nitrogen is the active atom in the adsorbed layer, typical compound being organic amines.

The bond strength of the adsorbed layer is due to nitrogen atom's high density of electrons and ability to bond with steel. L&TTCI adsorption is not a momentary process and requires sometime for completion. The process is chemical and not physical in nature resulting in chemisorbed layer on the metal surface. Rebar surfaces exposed to vapours from L&TTCI give evidence of having been covered by hydrophobic adsorbed layer. The contact angle of water on such surfaces increase the time of exposures & renders the surface hydrophobic. Also the molecules possess binding energy to metal surfaces higher than the binding energy of water dipoles and chlorides. Hence, **Shalimar's Kavassu L&TTCI Corrosion Inhibitor** able to dislodge both the water molecules and chlorides from the metal surface and form an adsorbed layer. This adsorbed layer remains on the surface & protects the reinforcement steel rebar from corrosion.

## PHYSICAL PROPERTIES

SR	DESCRIPTION	RESULTS
1.	Specific Gravity	2.14
2	Fineness (by Blaine permeability apparatus)	6740/Kg
3	Color	Off white

Packaging 200 GMS POUCH

Shelf Life 12 MONTHS

## ADVANTAGES

- Available in soluble pouches in powder/compressed powder from which can be directly added at the plant or to the transit mixer.
- Mechanical strength characteristics of concrete/mortar is unaffected.
- Does not entrain any additional air.
- Bond strength of new or old concrete is not affected with reinforcement bars.
- Non-toxic, Eco-friendly, Non pollutive material.
- Ensures uniform corrosion protection throughout the cementitious concrete matrix.
- Penetrates towards reinforcement steel rebar over a prolonged period and arrests corrosion of rusting steel. Product is free from nitrite and chromate.
- Equally effective even in the presence of high amount of chlorides.

## ADVERSE ECONOMIC AND SOCIAL EFFECTS OF CORROSION

- Various health problems, for example, drinking water contamination with lead is likely due to corrosion.
- Safety requirement measures from a fire hazard or explosion or release of toxic product.
- Loss of quality of product from a corroded container.
- Replacement of corroded equipment resulting in heavy expenditure.
- High-cost preventive maintenance such as anti carbonation concrete painting.
- Loss of efficiency because of oxidation.
- Adulteration in final product due to mixing of corrodent steel.



## APPLICATIONS

- As an powder additive to repair mortars and micro-concrete with cement.
- Chimneys, cooling towers, power plants, transmission towers, pipeline pedestals made of reinforced concrete.
- Water retaining reinforced concrete structures.
- Water filtration sewage plants, chlorinating plants, swimming pools, pulp & paper industry, chemical plants, neutralization plants, pumping stations where reinforced steel rebars are used in bulk.
- Road Infrastructure projects, Power projects, Refineries, Metro Rail and other means of transportation.
- Pile foundations, Raft foundations, open Foundations, reinforced concrete Retaining walls, Diaphragm walls, marine structures & marine foundations etc.
- All reinforced concrete structures exposed to moderate to aggressive corrosion and open environmental exposures.
- Bridge, Flyovers, Jetties, Mooring berth, wet basins, Docks and reinforced concrete structures exposed to coastal/saline atmosphere.

## USAGE

**Shalimar's Kavassu L&TTCI Corrosion Inhibitor** is used in a very small dosage as product is having a strong concentration which minimizes the loss of metal, reduces the extent of hydrogen embrittlement, protects various metals against cavity, reduces over pickling and acid fumes resulting from excessive reaction between the acids and basic metals and reduces acid consumption as well.



ISO 14001:2015



ISO 9001:2015



ISO 45001:2018



Manufactured By: **SHALIMAR SEAL & TAR PRODUCTS PVT. LTD.**

Plot No.:148, Village: Mansarkhedi, Bassi - 303301(India).

### CORRESPONDENCE ADDRESS :

B - 6, 7 & 8, Jaipur Tower, Opp. All India Radio, M.I.Road, Jaipur - 302001, Rajasthan (India).

Ph:+ 91-141-4025184, 2364228, 2370004 || E-Mail: sales@shalimartar.com, support@shalimartar.com

MANUFACTURING PLANT LOCATION

JAIPUR

### CUSTOMER CARE :

+91-9829065184, 8003993311, 8003993312

### IMPORTANT NOTE :

Products are available at all leading cement, hardware, Tile & Paint stores through our wide network of distributors across the country. The product information & application details given by the company & agents has been provided in good faith & meant to serve only as a general guideline during usage. Users are advised to carry out tests & take trials to ensure the suitability of products meeting their requirement prior to full-scale usage of our products. Since the correct identification of the problems, quality of other materials used & on-site workmanship are factors beyond our control there are no expressed or implied guarantee/warranty to the results obtained. The company does not assume any liability or any consequential damage for less than satisfactory results, arising from the use of our products. The leaflet supersedes the previous one and a new issue may take place without notice to supersede this edition as and when it becomes necessary.

Latest Revised on 01<sup>st</sup> January 2023 & supersedes all earlier revisions

[www.shalimartar.com](http://www.shalimartar.com)



(STRENGTH OF CONSTRUCTION)