VAPPRO
VAPOUR CORROSION INHIBITOR
VBCI BIODEGRADABLE VCI

ECO FRIENDLY
SUSTAINABLE
BIODEGRADABLE

ISO 9001
Quality Management System

ISO 14001
Environmental Management System

MADE IN SINGAPORE

VBCI Series- A class of environmentally friendly corrosion inhibitors for a cleaner, greener, better tomorrow.

VAPPRO VBCI BTP SLURRY

Water-based corrosion inhibitor for bottom tank plate of AST

Introduction

Aboveground storage tanks (ASTs) are commonly used for storing a variety of liquids, including chemicals, fuels, and water. However, one of the primary concerns with ASTs is corrosion, which can lead to leaks, spills, and other hazards. To prevent corrosion and protect the integrity of the tank, various corrosion inhibition methods are used.

The bottom tank plate of an Aboveground Storage Tank (AST) is susceptible to corrosion due to its constant contact with moisture and chemicals stored in the tank. Therefore, proper preservation is necessary to extend the life of the bottom tank plate and ensure the safety and integrity of the tank.

Vapor Corrosion Inhibitor (VCI) technology is a popular and effective method for protecting metal surfaces against corrosion. It is commonly used in the oil and gas industry to protect Aboveground Storage Tanks (ASTs) from corrosion. One form of VCI technology is VCI slurry, which is a mixture of corrosion inhibitors and carrier fluids that can be pumped into the soil between the ring wall and the AST bottom plate.

Description

Vappro VBCI BTP Slurry is a water-based rust preventive concentrate designed to prevent corrosion of the bottom plate of Aboveground Storage Tanks (AST). It contains corrosion inhibitors that prevent corrosion on both contact and vapor phase surfaces.

Vappro VBCI BTP Slurry is non-toxic, environmentally friendly, and does not contain heavy metals.

It is safe, economical to use, and easy to dispose of Vappro VBCI BTP Slurry. It is not possible to produce toxic fumes during welding after the application of the material.

Vappro VBCI BTP Slurry works by releasing corrosion inhibitors that are designed to bond with the metal surfaces of the AST, forming a protective barrier that inhibits the corrosion process. The carrier fluid in the slurry helps to transport the inhibitors to the metal surface, where they can adhere and protect against corrosion.

Vappro VBCI BTP Slurry is generally considered to be a safe and effective corrosion inhibition method for ASTs. It is relatively easy to apply and does not require extensive maintenance.

Benefits of Vappro VBCI BTP Slurry

The application of Vappro VBCI BTP Slurry to the soil between the ring wall and the AST bottom plate provides several benefits.

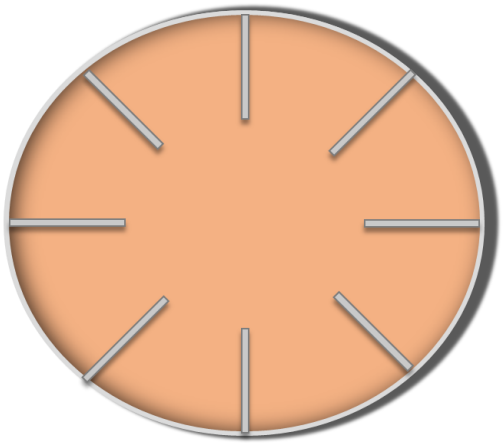
- First, it provides a physical barrier that protects the AST bottom plate from contact with the soil, which can contain moisture, salts, and other substances that promote corrosion.
- Second, it releases corrosion inhibitors that bond with the metal surfaces of the tank, providing an additional layer of protection against corrosion.
- Third, it is a non-intrusive and cost-effective method for protecting ASTs against corrosion.
- Non-flammable
- Free from heavy metals
- Environmentally friendly
- Biodegradable
- Weldable
- Can be painted over.
- Suitable for saltwater applications

The effectiveness of Vappro VBCI BTP Slurry depends on a variety of factors, including the concentration and application of the slurry, as well as the specific conditions of the tank environment. The pH and temperature of the tank environment can also influence the effectiveness of the VCI slurry. Additionally, regular inspections and maintenance of the tank should still be conducted to ensure that any potential corrosion issues are detected and addressed promptly.

Method of Application

Preparation: Before starting the Vappro VBCI BTP Slurry preservation procedure, ensure that the tank is thoroughly cleaned, and the bottom plate is free of any debris, moisture, or contamination. The injection system and injection holes should also be clean and free of obstructions.

Mixing: Mix the Vappro VBCI BTP Slurry according to the environmental conditions of the tank location. This typically involves mixing Vappro VBCI BTP Slurry with water to create a slurry with the desired concentration and viscosity.



This application methodology is applicable for tanks specifically constructed concrete ring wall or crushed stone ring wall with clean sand and with released preventative barriers (RPB).

Drill the holes evenly and insert perforated VBCI injection pipe all the way to the centre of the tank and then inject the Vappro VBCI BTP slurry into the sand pad. Inject Vappro VBCI BTP Slurry into sand base till sand base is saturated.

Injection: Before injecting the slurry, it is essential to perform a trial run to determine the optimal pressure for the specific tank and VCI slurry. This can be done by injecting a small amount of slurry and monitoring the pressure and flow rate. Based on the results of the trial run, the pressure can be adjusted to achieve the desired injection rate and coverage.

Using an injection system, inject the VCI slurry into the bottom plate of the tank through the injection holes. The injection rate should be adjusted to ensure that the slurry is evenly distributed across the entire surface of the bottom plate. The pressure at which VCI slurry should be injected into an AST (Aboveground Storage Tank) bottom plate from the outside will depend on various factors such as the viscosity of the slurry, the size of the injection hole, and the depth of the tank.

The injection pressure should be regulated to ensure that it is not too high, which could cause damage to the bottom plate or the injection equipment, or too low, which may not allow the slurry to penetrate the corners and edges of the tank bottom.

Vappro VBCI BTP SLURRY

Inspection: After the slurry has been injected, inspect the bottom plate to ensure that the slurry has covered the entire surface area. This can be done by visually via an endoscope, inspecting the bottom plate or using ultrasonic testing or other non-destructive testing methods to ensure that the slurry has penetrated all areas of the bottom plate.

Sealing: After the inspection, seal the injection holes using a suitable sealant material to prevent any leaks or corrosion in the future.

Maintenance: Regular maintenance of the VCI slurry preservation system is essential to ensure that it continues to provide effective corrosion protection. This typically involves regular inspection, cleaning, and re-injection of the slurry as required based on the manufacturer's recommendations.

Dosage

1.6 litre to 2 litre per square meter

Typical Properties

Appearance:	White slurry liquid
Flash Point:	Non-Flammable
Odour:	Near odourless
Specific Gravity:	1.16
pH:	14 (Neat)
Viscosity:	982 mPa.S (Using Rotor 2, with rotating speed 30RPM)

Metals Protected

Carbon steel

Mild steel

Stainless steel

Other ferrous metals

Packaging

Available in 20 and 209 litres drum

Storage

For temperate climatic conditions, store in heated warehouses during winter.

Shelf-life

24 months under sheltered environment

Magna

Magna International Pte Ltd
10H, Enterprise Road,
Singapore 629834.
Tel (65) 6786-2616
Fax (65) 6785-1497
Email info@vapprovbci.com
Web http://www.vapprovbci.com

Regional Office
North America
1450 Government Road West,
Kirkland Lake, Ontario P2N 2E9,
Canada
Tel (1) 416 479 9151
Fax (1) 888 317 1993

Australia
Unit 6, 25 Bunney Road
Oakleigh South
VIC 3167 Australia
Tel (61) 3 9558 2980
Fax (61) 3 9558 3430

Follow us on social media for regular updates and news.

https://www.facebook.com/MagnaInternationalPteLtd
https://www.facebook.com/vapprovci

Headquarters ***Singapore***

Regional Offices ***Australia*** ***Canada*** ***Japan*** ***Mexico*** ***South Korea***

Vappro VBCI BTP Slurry and CP work synergistically to protect AST bottom plate more effectively.

As a synergistic product, Vappro VBCI BTP VCI Slurry has been developed to complement CP.

Aboveground storage tanks (ASTs) can encounter several common problems when using cathodic protection (CP). Problems include:

Uneven current distribution can occur due to several reasons, such as poor anode placement, poor electrical contact between the anodes and the tank bottom, or anodes being too far away from the tank bottom. These issues can result in a concentration of current in certain areas, leading to uneven current distribution.

Insufficient of current: It is common for CP to experience problems caused by insufficient current. The CP system may not be able to protect the AST from corrosion if it does not provide enough current to the bottom plate.

A lack of proper placement of the anodes: The location of the anodes is critical to the effectiveness of CP. The bottom plate of the AST may not be adequately protected if the anodes are not positioned properly or if there are not enough anodes.

Interference with other systems: The CP system may interfere with other systems, such as the tank's cathodic isolation system or a nearby pipeline's CP system. This interference can reduce the effectiveness of the CP system and lead to corrosion of the bottom plate.

Environmental factors: CP effectiveness can be affected by environmental factors such as soil resistivity and moisture content. CP systems may not be able to provide adequate protection if these factors are not considered during the design process.

Poor electrical contact: Poor electrical contact between the bottom plate of an aboveground storage tank (AST) and the cathodic protection (CP) system can cause CP to fail to protect the tank from corrosion.

Magna International Pte Ltd
10H, Enterprise Road,
Singapore 629834.
Tel (65) 6786-2616
Fax (65) 6785-1497
Email info@vapprovbci.com
Web http://www.vapprovbci.com

Regional Office
North America
1450 Government Road West,
Kirkland Lake, Ontario P2N 2E9,
Canada
Tel (1) 416 479 9151
Fax (1) 888 317 1993

Australia
Unit 6, 25 Bunney Road
Oakleigh South
VIC 3167 Australia
Tel (61) 3 9558 2980
Fax (61) 3 9558 3430

Follow us on social media for regular updates and news.

https://www.facebook.com/MagnaInternationalPteLtd
https://www.facebook.com/vapprovci

Headquarters
Singapore

Regional Offices
Australia ***Canada*** ***Japan*** ***Mexico*** ***South Korea***