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

# Vapro VBCI 400 Thermal-Kote

## Heat-resistant coating for steam pipes and steam operated equipment

NATO STOCK NUMBER: PENDING

### Introduction

It is estimated that, at present, approximately 50% of all hydro-carbon based products sold worldwide end up in the environment via total loss applications, spills or accidents.

In view of their high eco-toxicity and low biodegradability, mineral oil-based products constitute a considerable threat to the environment.

In response to the need for greater industrial environmental responsibility, Magna group has expanded its' range of VCI products with the addition of a new series of Vapro bio-based corrosion inhibitors (VBCIs) which are organic based and essentially non-toxic.

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

### Description

Vapro VBCI 400 Thermal-Kote is a viscous brown heat resistant coating, specially developed to protect deck steam pipes, steam operated equipment and windlass steam chest from corrosion on ocean going vessels and refineries.

It is a solvent-free vegetable oil based coating that is environmentally friendly, non-polluting and is harmless to users.

Vapro VBCI 400 Thermal-Kote withstands higher temperatures for longer periods than any other similar products and drastically reduces repair and maintenance cost. It has been tested to the most rigorous corrosion prevention standards using cyclical salt spray and temperature flux testing methods. ASTM B117 salt spray corrosion test at 800 hours with an excellent rating.

Vapro VBCI 400 Thermal-Kote effectively protects your steam pipe with the environment in mind for a cleaner, greener, better tomorrow.



### Features

- Bio-based
- Non-flammable
- Environmentally friendly and Non-polluting
- Excellent water resistant
- Good water displacement properties
- Heat Resistant
- U.V. Resistant
- Ease of application
- Contains no solvents
- Excellent corrosion inhibition properties

### Applications

- Steam pipe lines
- Steam operated equipment
- High temperature structure



## Direction For Use

### Surface Preparation

- 1) Remove scale, loose rust, flake rust and other foreign matters by means of brushing and scrapping.
- 2) Ensure surface is dry and clean.

### The First Coating

- 1) Apply 2 – 3mm thickness of Vapro Thermal-Kote on steam pipes by means of a spatula under ambient temperature. Vapro Thermal-Kote should be applied to surfaces with normal temperature.
- 2) Allow a minimum 48 hours drying time and check coating by set-to-touch test to ascertain the drying condition of the surface.
- 3) Ensure no air bubble is trapped in the coating film.
- 4) Do not apply heat to speed up the drying time of Vapro Thermal-Kote.

### Fiber Glass Tape

- 1) Wrap the surface of coating with fiber glass tape with a minimum overlapping ratio of 20% up to 30% according to the dimension of pipe and the glass fiber tape size.

#### Glass Fiber Tape Overlapping Ratios

Pipe Diameter	Fiber Glass Tape Size	Overlapping
25	0.32t x 24mesh x 50mm	30%
40 – 65	0.32 x 24 mesh x 100mm	25%
80 – 250	0.32t x 24mesh x 150mm	20%

### The Second Coating

Immediately after wrapping of fiber glass tape, apply 2mm thick of the second coat of Vapro Thermal-Kote over the fiber glass tape and allow up to 48 hours of drying time is required.

### Quality Check For Coating

- 1) After 48 hours of drying time, run steam through the pipes and check blistered holes, remove the air by pressing the blistered hole.
- 2) Apply additional Vapro Thermal-Kote if required thickness is not obtained.

### Corrective Measures

By means of a putty knife, scrap off the damaged film and touch up the damaged parts of the Vapro Thermal-Kote coating, ensure to overlapping more than 10mm.

Required tape length can be figured out by the following formula :

$$\frac{\text{O. Dia. of pipe (mm)} \times 3.14 \times \text{length of pipe (m)}}{\text{Tape width (mm)} - \text{Overlap width (mm)}} \times 1.1$$

### Warnings

- 1) Allow a minimum of 48 hours of drying time for Vapro Thermal-Kote before putting into service.
- 2) Ensure no contamination and bubbling on coating.
- 3) Even after 48 hours, avoid mechanical impact, as the underneath of the Vapro Thermal-Kote is still wet.

### Specifications

ASTM Drop Point  
Non-melt

Water Soluble  
Water proof

Water Resistance  
Excellent

Flash Point  
Non-flammable

Viscosity base SUS @210  
Degree F  
4800

Operating Temperature Range  
-30 to 2100 Degree F

Color  
Brown

Drop Point  
No dropping point

Metallic Content  
No lead or copper

### Available Packaging

16 kgs pail

## Magna

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