

## ■ Scratch Guard - Condition after usage

Bulk Carrier for 30 months  
90,000 and 50,000 DWT



Cape Size  
Bulk Carrier vessel for 54 months



Epoxy Coating for Cargo Holds

# EPOMARINE SCRATCH GUARD

EPOMARINE SCRATCH GUARD - High Solids Epoxy , featuring "Super-Scratch" durability a new and robust technology developed to protect your Cargo Holds.



90,000DWT BULK CARRIER 30 months

KANSAI PAINT MARINE CO.,LTD.

Head office  
12-1, Minamirokugo 3-chome, Ota-ku, Tokyo 144-0045, Japan  
TEL.+81-3-6758-2212 FAX.+81-3-6758-2213

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(010116, 1000 G014)

# Epoxy Coating for Cargo Holds

# EPOMARINE SCRATCH GUARD



Close Up

CAPE SIZE BULK CARRIER A 24 months

The robust paint film prevents appearance of scratches and other damage over a longer period of time. It therefore contributes to reducing costs for maintenance, in terms of labour and material.

( Compared to modified epoxy and tar epoxy coatings, this product provides a highly improved performance over both)  
 In comparison to modified epoxy paint and tar epoxy paint, this product shows a highly improved performance in terms of protecting the hold from scratches caused by cargo handling. (FDA approved)

## Characteristics

EPOMARINE SCRATCH GUARD's composition is made up of a robust epoxy resin combined with high solid pigments, such as aluminum. These components enable the product to achieve a hard paint film with excellent scratch protection performance.

### ●Hardness (Mohs hardness of metals, ores, pigments)

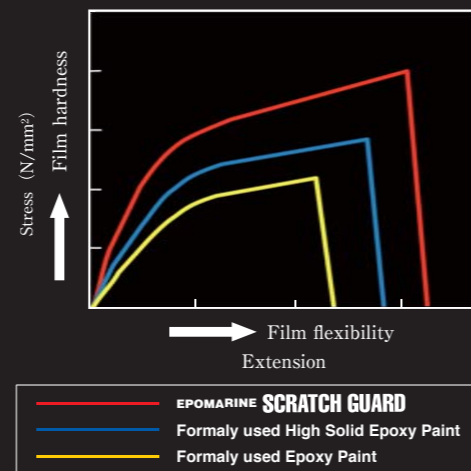
#### Comparison of Hardness

Pigments / Ores	Mohs' scale of hardness
Aluminium oxide	9
Quartz Silica	7
Titanium oxide	6.0~6.5
Feldspar	6
Tool Steels	6
Hematite	6
Glass	4.5~6.5
Pure Iron	4.5
Barite	3~3.5
Calcium carbonate	3
Mica	2.3~3.0
Anthracite (Hard Coal)	2.2
Talc	1~1.5

※This table shows the hardness of various types of cargo such as coal, ore (pink columns) and the majority of pigments that are used in paint.

Scratch Guard provides a superior solution under extreme conditions during cargo handling operations. By the nature of its hard coating film, Scratch Guard provides excellent crack resistance and limits damage to the surface of the film.

### ● S-S Curve



## Painting Specification

(recommended specification for repair and maintenance)

Procedure	Name of paint	Film thickness (μm)	Volume of paint to be applied (kg/m²)	Coating interval (20°C)	
				Min.	Max.
Surface preparation	Sand blast - over Sa.2.0 or over St3 when using power tools				
Holding primer	SD Zinc 100QD	40	0.18	3H	—
First Coat	Scratch Guard Brown	150	0.34	16H	7days
Stripe Coat	Scratch Guard Brown	50	0.12	16H	7days
Second Coat	Scratch Guard Grey	150	0.34	16H	7days

- ① Thinner to be used : Thinner No. 17
- ② Scratch Guard Packing : 20Kg/set (Base 18Kg, Hardener 2Kg)
- ③ Mixing ratio : Base :Hardener = 9:1 (by weight)
- ④ Standard colors : Grey, Brown

## Comparison of damage

	EPOMARINE SCRATCH GUARD	Ordinary Modified epoxy resin paint	Tar epoxy paint
LHP Degree of damage	 Very few scratches	 Scratches and rust on entire surface	 Severe chipping and exfoliation on entire surface

## Comparison of Epomarine Scratch Guard and a customary high solid epoxy paint.

	EPOMARINE SCRATCH GUARD	Formally used Modified epoxy resin paint
Hardness of film (Scratched with pencils)	Over 5H (Pencil type)	H ~ 2H (Pencil type)
Scratch-resistance	 BHD 13 months Ore carrying vessel (CAPE SIZE) Limited amount of scratches	 Extensive damage by scratches (some rust penetration)
Test on damage from impact	 Good	 Cracks on the film

## The anti-corrosive properties of Epomarine scratch guard Test report

	EPOMARINE SCRATCH GUARD	Formally used Modified epoxy resin paint
Test on anti-corrosive properties (3 months of exposure to 40°C salt water)	 Good	 Good



Ballast tank and hold (double use) in 90,000 DWT coal carrying vessel