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**IMO Resolution MSC.215(82)
compliant Ballast Tank Coating****NIPPON E-MARINE 3000 HS LT**

NIPPON E-MARINE 3000 HS LT is a two-component, high-volume solid epoxy universal primer specifically designed for low temperature applications. This primer boasts excellent abrasion resistance while prioritizing health, safety, and environmental considerations. Its versatility makes it suitable for a wide range of uses, and its enhanced resistance to freshwater, saltwater, and cathodic disbonding makes it an ideal choice for outer hulls, decks, cargo holds, and water ballast tanks. Additionally, it is compatible with various types of top coats. This coating fully complies with IMO Resolution MSC.215(82).

PRODUCT DATA						
Suitable Use	Epoxy universal primer for all areas of vessel					
Type	Epoxy					
Colour	Red Oxide, Grey					
Gloss	Semi-gloss					
Volume Solids	86 ± 2% (ISO3233:1998)					
Standard Dry Film Thickness	125 ~ 320 µm					
Approx. Wet Film Thickness	145 ~ 372 µm					
Theoretical Coverage	0.304 Kg / m ² , 0.186 L / m ² , 5.375 m ² / L (160µm)					
Specific Gravity	BASE	:1.86 ~ 1.96				
	HARDENER	:0.94 ~ 1.04				
	Mixed paint	:1.59 ~ 1.69				
Drying Time	Surface Dry	20 hrs	(-5°C)	Dry Hard	60 hrs	(-5°C)
		8 hrs	(5°C)		24 hrs	(5°C)
		6 hrs	(10°C)		16 hrs	(10°C)
		3 hrs	(20°C)		12 hrs	(20°C)
Interval before Overcoating (by self)	Min.	60 hrs	(-5°C)	Max.	30 days	(-5°C)
		24 hrs	(5°C)		30 days	(5°C)
		16 hrs	(10°C)		30 days	(10°C)
		12 hrs	(20°C)		16 days	(20°C)
Minimum Time before cargo loading / ballasting		14 days	(-5°C)			
		10 days	(5°C)			
		7 days	(10°C)			
		4 days	(20°C)			
Min. DFT	80 µm					
	Film thickness shall be controlled as close as NDFT which should be evaluated by the 90 / 10 rule in accordance with PSPC 2.8.					

Recognised in Japan as

SURFACE PREPARATION**Steel Preparation**

Use in accordance with our standard painting manual. Where necessary, remove weld spatter, smooth weld seams and remove sharp edges by rounding to a minimum radius of 2mm or subjecting to three pass grinding technique or at least equivalent process.

Surface Cleaning

All surfaces to be coated should be clean, dry and free from contamination.

Use a high-pressure freshwater wash, or a freshwater wash as appropriate, to remove all oil, grease, soluble contaminants, and other foreign matter. Water soluble salts limit equivalent to NaCl : $\leq 50 \text{ mg / m}^2$ of sodium chloride.

Dust quantity should be rated at "1" for dust size classes "3", "4" or "5". Lower dust size classes to be removed if visible on the surface to be coated without magnification. (ISO8502-3:1993)

Shop Primers

Approved shop primers, compatible with NIPPON E-MARINE 3000 HS LT, must be applied in accordance with PSPC MSC 215 (82) to a minimum standard of Sa 2 ½ (ISO8501-1 :2007) and over blasting profile of 30 - 75 μm (ISO8503-1/2:1988)

The shop primer which has passed a prequalification test shall be cleaned by sweep blasting, high-pressure water washing or equivalent method.

Welding part, corroded and damaged area to the shop primer must be cleaned by abrasive blasting to Sa 2 ½ (ISO8501-1:2007)

Non approved shop primers must be cleaned by abrasive blasting to Sa 2 (ISO8501-1 :2007) and at least 70% of the intact shop primer should be removed.

Welding part, corroded and damaged area to the shop primer must be cleaned by abrasive blasting to Sa 2 ½ (ISO8501-1:2007)

The surface profile on any areas where abrasive blasting has been carried out must be in the range of 30 - 75 μm (ISO8503-1/2:1988)

Repair Coating & Touching-up

When exceeding the specified overcoating intervals, surface to be overcoated, should be roughened with power-tool before application.

After Erection

Erection joint welds and adjacent areas must be abrasive blasted to Sa 2 ½ (ISO8501-1 :2007) or power tool cleaned to St 3 (ISO8501-1 :2007).

Small damages, up to 2% of total area, may be prepared with power tool to St 3 (ISO8501-1 : 2007).

Damages over 25sqm or over 2% of the total tank surface area must be abrasive blasted to Sa 2 ½ (ISO8501-1:2007).

APPLICATION

Mixing

Material is supplied in two components as a unit. Mix a complete unit in the proportions supplied. Once the units has been mixed it must be used within the specified pot life.

- (1) Agitate BASE with a power agitator.
- (2) Combine HARDENER with BASE and stir thoroughly with power agitator.

VOC Values 100 g / L as supplied

Thinner 0-6 % (by volume)
NIPPON MARINE THINNER 600 / NIPPON MARINE THINNER 615 (China Regions)

Application Method

Airless Spray

Tip range : 0.53 ~ 0.79 mm
(ex. GRACO 521 - 531, 621 - 631)
Fan angle : 45° ~ 55°
(For T/U) 30° ~ 35°
Output Pressure : 150 ~ 250 Kg / cm²

Brush / Roller

For touching up small areas and stripe-coating

Mixing Ratio by Weight

BASE 82 / HARDENER 18

Mixing Ratio by Volume

BASE 71.3 / HARDENER 28.7

Pot Life After Mixing

3 hours (-5°C) | 2.5 hours (5°C) | 2.0 hours (10°C) | 1.0 hours (25°C)

Since pot life is shortened at high temperature, avoid mixing excessive amounts at one time under such conditions.

Application Procedure

NIPPON E-MARINE 3000 HS LT may be applied as a one coat or two coat system.

Stripe Coating

Due to the high volume solids of the product, stripe coating to the full specified film thickness may be easily achieved in two applications. However, the correct technique as outlined below must be used:

1. The roller or brush should be fully charged with paint for each application. A roller shall be used for scallops, rat-holes etc., but not for edges and welds.
2. Light pressure on the tool will deposit more paint to the area - repeated heavy movements will tend to spread the paint more thinly and also aerate the paint - this should be avoided.
3. In the case of rough 'return welds' in scallops, the fully charged tool should be pulled into the weld and a 'side to side' motion employed to ensure that the cavities are fully coated.
4. Generally, stripe coating should only be necessary in areas that are difficult to coat by spray such as rough up-hand welds, return welds, free edges, scallops, drain holes, air holes, behind angles, stiffeners and brackets, etc.

Although NIPPON E-MARINE 3000 HS LT exhibits very good flexibility properties over other epoxy products it is 'good painting practice' not to over-apply coatings on welds that will be subject to stress. Stripe coating should also be avoided in areas where multiple passes by spray may be applied, such as corners or welds on right-angled structure.

Cosmetic Painting

Do not apply cosmetic touch-up on areas stained with foreign matters.

AMBIENT COATING FOR APPLICATION

Ambient Coating	Max relative humidity	: 85%
	Min. steel temperature above Dew point	: 3°C
	Recommended ambient temperature	: Above -5 °C

UNIT SIZE		SHELF LIFE	
Japan	: 20 kg (BASE 16.4 kg, HARDENER 3.6 kg)	BASE	: 12 months under 25°C
Worldwide	: 15 L (BASE 10.7 L, HARDENER 4.3 L)	HARDENER	: 12 months under 25°C
Package may vary from country to country.			

FLASH POINT

BASE 60 °C, HARDENER 39 °C (ISO3679:2015)

ID CODE

Grey BASE	: EMJ060B
Red Oxide BASE	: EMJ445B
HARDENER	: EMJ000H

SAFETY

Take precautions to avoid skin and eye contact (i.e. gloves, goggles, face masks, barrier creams etc.)

Proper ventilation and protective measures must be provided during applications and drying to keep solvent vapor concentrations within safe limits.

Prior to use, obtain, consult and follow the SDS for this product concerning health and safety information.

NOTE:

1. The information contained in this sheet is liable to modification from time to time in light of experience and our policy of continuous product development.
2. Store the paints in paint store.
3. Discoloration (blackening) may occur on the surface due to sulphide in ballast water / sludge. Its anti- corrosive performance is not adversely affected by the discoloration.
4. Prior to use, obtain, consult and follow the SDS of this product.
5. Some regions will be supplied with NIPPON MARINE THINNER 600 instead of NIPPON MARINE THINNER 615.
6. Use products that comply with local regulations to clean the paint equipment.