

## NIPPON E-MARINE 2000

NIPPON E-MARINE 2000 is a universal primer which can be used as a ballast tank coating. It is type approved as complying with the requirements of IMO Resolution MSC.215(82) for use on newbuildings. The coating is light coloured, abrasion resistant, high volume solid epoxy coating providing long-term corrosion protection.

### 【 Product Data 】

Suitable Use	Universal anti-corrosive coating for all areas on newbuildings (underwater hulls, boottop, topsides, decks, holds, ballast tanks, etc.)				
Type	Pure epoxy				
Colour	Gray, Red oxide, Cream				
Gloss	Flat				
Volume Solids	80 ± 2% ( ISO3233:1998 )				
Dry Film Thickness	320 µm by two (2) coats				
Approx. Wet Film Thickness	400 µm				
Theoretical Coverage	5 m <sup>2</sup> / L, 0.200 L / m <sup>2</sup> , 0.292kg / m <sup>2</sup> ( 160 µ m )				
Specific Gravity	BASE : 1.52 ~ 1.62    HARDENER : 0.90 ~ 1.00 Mixed paint : 1.41 ~ 1.51				
Drying Time	Surface Dry	10 hours (5°C)	4 hours (20°C)	2 hours (30°C)	1/2 hours (40°C)
	Dry Hard	36 hours (5°C)	12 hours (20°C)	6 hours (30°C)	3 hours (40°C)
Interval before Overcoating ( by self: Immersed area )	Min.	36 hours (5°C)	12 hours (20°C)	6 hours (30°C)	3 hours (40°C)
	Max.	30 days (5°C)	30 days (20°C)	14 days (30°C)	7 days (40°C)
Minimum Time before ballasting		12 days (5°C)	6 days (20°C)	4 days (30°C)	3 days (40°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.				
Max. DFT	1,800 µm Maximum dry film thickness is total thickness of coating systems.				

**【 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	<p>All surfaces to be coated should be clean, dry and free from contamination. High pressure fresh water wash or fresh water wash, as appropriate, and remove all oil / grease, soluble contaminants and other foreign matters.</p> <p>Water soluble salts limit equivalent to NaCl : <math>\leq 50</math> mg / m<sup>2</sup> of sodium chloride.</p> <p>Dust quantity rating "1" for dust size class "3", "4" or "5". Lower dust size classes to be removed if visible on the surface to be coated without magnification. (ISO8502-3:1993)</p>
Shop Primers	<p><u>Approved shop primers</u>, compatible with NIPPON E-MARINE 2000, must be applied in accordance with PSPC MSC 215 (82) to a minimum standard of Sa 2<sup>1</sup>/<sub>2</sub> (ISO8501-1 :2007) and over blasting profile of 30 - 75 <math>\mu</math>m (ISO8503-1/2:1988)</p> <p><i>The shop primer which has passed a prequalification test shall be cleaned by sweep blasting, high-pressure water washing or equivalent method.</i></p> <p><i>Welding part, corroded and damaged area to the shop primer must be cleaned by abrasive blasting to Sa 2<sup>1</sup>/<sub>2</sub> (ISO8501-1:2007)</i></p> <p><u>Non approved shop primers</u> must be cleaned by abrasive blasting to Sa 2 (ISO8501-1 :2007) and at least 70% of the intact shop primer should be removed.</p> <p><i>Welding part, corroded and damaged area to the shop primer must be cleaned by abrasive blasting to Sa 2<sup>1</sup>/<sub>2</sub> (ISO8501-1:2007)</i></p> <p><i>The surface profile on any areas where abrasive blasting has been carried out must be in the range of 30 - 75 <math>\mu</math>m (ISO8503-1/2:1988)</i></p>
Repair coating & touching-up	When exceeding the specified overcoating intervals, surface to be overcoated, should be roughened with power-tool before application.
After Erection	<p>Erection joint welds and adjacent areas must be abrasive blasted to Sa 2<sup>1</sup>/<sub>2</sub> (ISO8501-1 :2007) or power tool cleaned to St 3 (ISO8501-1 :2007).</p> <p>Small damages, up to 2% of total area, may be prepared with power tool to St 3 (ISO8501-1 : 2007).</p> <p>Damages over 25sqm or over 2% of the total tank surface area must be abrasive blasted to Sa 2<sup>1</sup>/<sub>2</sub> (ISO8501-1:2007).</p>

**IMO Resolution MSC.215(82)  
compliant Ballast Tank Coating**
**Marine Paint Manual**

NIPPON E-MARINE 2000

Issue date : April 2023

**【 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 Thinner	249 g / L as supplied NIPPON MARINE THINNER 615			
Application Method	Airless Spray	Tip range	: 0.53 ~ 0.79 mm (ex. GRACO 521 - 531, 621 - 631)	
		Fan angle ( For T/U )	: 45° ~ 55° 30° ~ 35°	
		Output pressure	: 150 ~ 250 Kg / cm <sup>2</sup>	
	Brush / Roller	For touching up small areas and stripe-coating		
Mixing Ratio by Weight	BASE 87 / HARDENER 13			
Mixing Ratio by Volume	BASE 80 / HARDENER 20			
Pot Life After Mixing	6 hours (5°C)	3 hours (20°C)	2 hours (30°C)	1 hour (40 °C)
	Since pot life is shortened at high temperature (2 hours at 30°C), avoid mixing excessive amounts at one time under such conditions.			
Application Procedure	NIPPON E-MARINE 2000 may be applied as 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 2000 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 Condition for Application 】**

Ambient condition            Max relative humidity : 85%  
                                     Min. steel temperature above Dew point : 3 °C  
                                     Recommended ambient temperature : 0 ~ 40°C  
                                     Recommended surface temperature : 0 ~ 70°C

**【 Unit Size 】**

Japan            : 20kg ( BASE 17.4kg, HARDENER 2.6kg )  
Worldwide : 20L ( BASE 16L, HARDENER 4L )  
Package may vary from country to country.

**【 Flash Point 】**

BASE 28°C HARDENER 31°C (ISO3679:2015)

**【 Shelf Life 】**

BASE            : 12 months under 23°C  
HARDENER    : 12 months under 23°C

**【 ID Code 】**

Gray BASE            : DEJ637  
Red Oxide BASE      : DEJ143  
Cream BASE          : DEJ335  
HARDENER            : DEJ243

**【 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 vapour concentrations within safe limits.  
Prior to use, obtain, consult and follow the SDS for this product concerning health and safety information.

## &lt;Note&gt;

- 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.