

## UNIPRIME 100 HS-LT

UNIPRIME 100 HS-LT is a two-pack, high volume solid universal primer aiming for less volatile organic compounds. It is for cold temperature use type of UNIPRIME 100 HS. As this epoxy coating offers excellent resistant to water, seawater, abrasion and cathodic protection. It is suitable for all areas on newbuildings such as the underwater hulls, boottop, topsides, decks, holds, ballast tanks, etc. It can be overcoated with various kinds of finishes.

The coating is fully compliant with IMO Performance Standard for Protective Coatings.

### 【 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			
Ref. No.	QD			
Color	Gray, Red oxide, Buff, Bronze, Aluminum			
Gloss	Flat			
Volume Solids	76 ± 2% ( ISO3233:1998 )			
Dry Film Thickness	320 μm by two (2) coats			
Approx. Wet Film Thickness	421 μm (Dry 320μm)			
Theoretical Coverage	0.304 Kg / m <sup>2</sup> 0.211 L / m <sup>2</sup> ( 160 μ m )			
Specific Gravity	BASE : 1.52 ~ 1.62    HARDENER : 0.92 ~ 1.02 Mixed paint : 1.39 ~ 1.50			
Drying Time	Surface Dry	4 hours (-5°C)	3 hours (5°C)	2 1/2 hours (10°C) 1 1/2 hour (25°C)
	Dry Hard	24 hours (-5°C)	17 hours (5°C)	12 hours (10°C) 5 hours (25°C)
Interval before Overcoating ( by self )	Min.	24 hours (-5°C)	17 hours (5°C)	12 hours (10°C) 5 hours (25°C)
	Max.	30 days (-5°C)	21 days (5°C)	21 days (10°C) 10 days (25°C)
Minimum Time before ballasting Min. DFT		15 days (-5°C)	10 days (5°C)	7 days (10°C) 5 days (25°C)
	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><i>Approved shop primers, compatible with UNIPRIME 100 HS-LT, 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)</i></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><i>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.</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><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>

## 【 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.		
Thinner	NIPPON MARINE THINNER 600 Max. allowable addition : 10% by weight.		
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 / cm <sup>2</sup>	
	Brush / Roller	For touching up small areas and stripe-coating	
Mixing Ratio by Weight	BASE 86 / HARDENER 14		
Pot Life After Mixing	7 hours (-5°C)   5 hours (5°C)   3 hours (10°C)   1 hour (25°C) Since pot life is shortened at high temperature (2 hours at 35°C), avoid mixing excessive amounts at one time under such conditions.		
Application Procedure	UNIPRIME 100 HS-LT may be applied as two coat system due to its unique formulation that eliminates the danger of solvent retention in the coating film normally associated with one coat systems applied at high film thickness.		
Stripe Coating	<p>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:</p> <ol style="list-style-type: none"><li>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.</li><li>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.</li><li>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.</li><li>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.</li></ol> <p>Although UNIPRIME 100 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.</p>		
Cosmetic Painting	Do not apply cosmetic touch-up on areas stained with foreign matters.		

IMO Resolution MSC.215(82)  
compliant coating

## Marine Paint Manual

UNIPRIME 100 HS-LT

Issue date : July 2015

### 【 Ambient Condition for Application 】

Ambient condition            Max relative humidity : 85%  
                                     Min. steel temperature above Dew point : 3 °C  
                                     Applicable ambient temperature : -5 ~ 25°C  
                                     Applicable surface temperature : 0 ~ 50°C

### 【 Unit Size 】

Japan            : 20kg ( BASE 17.2kg, HARDENER 2.8kg )  
Worldwide : 16L ( BASE 12.6L, HARDENER 3.4L )  
Package may vary from country to country.

### 【 Flash Point 】

14°C

### 【 Shelf Life 】

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

### 【 ID Code 】

Gray BASE            : DEH637QD  
Red oxide BASE      : DEH143QD  
Buff BASE            : DEH358QD  
Bronze BASE         : DEH202QD  
Aluminum BASE      : DEH203QD  
  
HARDENER            : DEH243QD

### 【 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.