

IMO Resolution MSC.288(87) compliant coating

Marine Paint Manual

Reference No. : 14-13 Issue Date : December 2019 (ES)

NOA PC 700

A two-pack phenol / novolac epoxy designed for cargo oil tanks loaded with petroleum and chemical products. It offers superior resistance to petroleum products, solvents, water and chemical attack. It protects inner cargo oil tanks from corrosion and prevent cargoes from contaminants. And then it enables to ease tank cleaning during operation. The coating system is applicable from SI type which enables a painter to visually confirm that the correct film thickness (wet / dry) has been achieved during application process and non-SI type. The coating is fully compliant with IMO Performance Standard for Protective Coatings for cargo oil tanks of crude oil tankers.

[Product Data]

Suitable Use Type Colour Gloss Volume Solids Dry Film Thickness Approx. Wet Film Thickness Theoretical Coverage Specific Gravity	Anti-corrosive coating for cargo oil tanks Phenol / Novolac epoxy Buff [SI] Gray, Red oxide [Non-SI] Flat $75 \pm 2 \%$ (ISO3233:1998) $100 \sim 150 \ \mu m$ $33 \sim 200 \ \mu m$ $7.5 \ m^2/L$ (DFT 100 $\ \mu m$) BASE : 1.57 ~ 1.67 HARDENER : 0.93 ~ 1.03 Mixed paint : 1.49 ~ 1.59
Drying Time (DFT 100 µm)	Surface Dry $1^{1}/_{2}$ hours (10°C) 40 minutes (20°C) 20 minutes (30°C)Dry Hard18 hours (10°C) 12 hours (20°C)8 hours (30°C)
Interval before Overcoating (by self)	Min.18 hours (10°C) 12 hours (20°C)8 hours (30°C)Max. (1)28 days (10°C) 21 days (20°C) 15 days (30°C)Max. (2)7 days (10°C) 4 days (20°C) 3 days (30°C)% Refer to Note (7).
Minimum time before loading	g 20 days (10°C) 10 days (20°C) 5 days (30°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	1,000 μm Maximum dry film thickness is total thickness of coating system.
[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. High pressure fresh water wash or fresh water wash, as appropriate, and remove all oil / grease, soluble contaminants and other foreign matters. Water soluble salts limit equivalent to NaCI : $\leq 50 \text{ mg} / \text{m2}$ of sodium chloride 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)

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Shop Primers	<u>Approved shop primers</u> , compatible with NOA PC 700 must be applied in accordance with PSPC MSC 288(87) to a minimum standard of Sa $2^{1}/_{2}$ (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 $2^{1}/_{2}$ (ISO8501-1:2007)
	<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. Welding part, corroded and damaged area to the shop primer must be cleaned by abrasive blasting to Sa $2^{1}/_{2}$ (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)
	In case that NOA PC 700 is to be applied to cargo oil tanks of product carriers, Intact shop primed surface shall be cleaned by abrasive blasting to Sa $2^{1}/_{2}$ (ISO8501- 1:2007). Welding part and damaged area to shop primer shall be cleaned by abrasive blasting to Sa $2^{1}/_{2}$ (ISO8501-1:2007). Burnt part and corroded area to shop primer shall be cleaned by abrasive blasting to Sa $2^{1}/_{2}$ (ISO8501-1:2007).
Repair coating & touching up	NOA PC 700 can be sprayed immediately after repair coating. The specified max. overcoating interval shall be maintained. 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 $2^{1}/_{2}$ (ISO8501 -1 :2007) or power tool cleaned to St 3 (ISO8501-1 :2007).
	<u>For inner bottom</u> Damages, up to 20% of the area to be coated, shall be prepared with power tool to St 3 (ISO8501-1 : 2007). Contiguous damages over 25sqm or over 20% of the area to be coated, shall be abrasive blasted to Sa $2^{1}/_{2}$ (ISO8501-1:2007).
	<u>For underdeck</u> Damages, up to 3% of the area to be coated, shall be prepared with power tool to St 3 (ISO8501-1 : 2007). Contiguous damages over 25sqm or over 3% of the area to be coated shall be abrasive blasted to Sa $2^{1}/_{2}$ (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.
Thinner	NIPPON MARINE THINNER 600 Max. allowable addition : 20% by weight.

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Application Method	Airless Spray Tip range : 0.43 ~ 0.53 mm (ex. GRACO 517 - 521, 617 - 621) Fan angle : 45° ~ 55° (For T/U) : 30° ~ 35° Output pressure : 150 ~ 220 Kg / cm2	
	Brush / Roller For touching up small areas and stripe-coating	
Mixing Ratio by Weight Pot Life After Mixing	BASE 88 / HARDENER 12 6 hours (10°C) 3 hours (20°C) 2 hours (30°C) Since pot life is shortened at high temperature, avoid mixing excessive amounts at one time under such conditions.	
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:	
	 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. 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. 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. 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 NOA PC 700 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.	
[Ambient Condition for Application]		
Ambient condition	Max relative humidity : 85% Applicable ambient temperature : 10 ~ 40°C Applicable surface temperature : 10 ~ 50°C Min. steel temperature above Dew point : 3 °C	
Worldwide : 1	20kg(BASE 17.6kg,HARDENER 2.4kg) 6L (BASE 13.1L,HARDENER 2.9L) / vary from country to country.	
【 Flash Point 】	24 °C	

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【 Shelf Life 】	BASE : 12 months under 25°C HARDENER : 12 months under 25°C
【ID Code】	Buff BASE: JFA358Gray BASE: JFA637Red Oxide BASE: JFA143HARDENER: JFA700
【 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.

<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 cargoes. Its anti-corrosive performance is not adversely affected by the discoloration.
- 4) If half-dried painted surface is subjected to rain or dew, blooming or sweating may occur, with the surface turned to white. Rub the area lightly with a wire brush before painting.
- 5) For the applications, refer to our "Suitability Table of Cargoes for Loading" and "Application Procedure".
- 6) Paint application shall be done immediately after abrasive blasting. Small rusted parts, welding seam, burnt parts shall be thoroughly treated with power tool.
- 7) Max. interval depends on exposure condition of coating. To prevent coating from sun light, cover manholes etc. with awning and so on. In case that coating is exposed to sun light, Max (2) of interval shall be adopted.

