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JIS

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JAPANESE INDUSTRIAL STANDARD

Oleoresinous Coatings for Outside Plating of Steel Ship

JIS K 5631 —1983

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JAPANESE INDUSTRIAL STANDARD

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Oleoresinous Coatings for Outside Plating of Steel Ship

K 5631-1983

1. Scope

This Japanese Industrial Standard specifies the oleoresinous coating for outside plating of steel ship.

Remarks 1. The oleoresinous coating for outside plating of steel ship is liquefied by dispersing the required pigments using oil varnish as vehicle and is used for the purposes of rust prevention, antifouling, facing, etc. of outside plating of steel ship.

2. The units and numerical values given in { } in this standard are in accordance with the International System of Units (SI), and are appended for reference.

2. Classification

The oleoresinous coatings for outside plating of steel ship shall be divided in the following six classes.

(1) Ship Bottom Rust Inhibiting Coating Class 1 This is a coating liquefied by dispersing the rust preventing pigment, color pigment, and extender pigment in oil varnish, and is used for under coating and intermediate coat which have a purpose of the rust prevention of steel ship bottom.

(2) Ship Bottom Rust Inhibiting Coating Class 2 This is a coating liquefied by dispersing the rust preventing pigment, aluminium powder, color pigment and extender pigment in oil varnish, and is used for under coating and intermediate coat which have a purpose of the rust prevention of steel ship bottom.

Applicable Standards:

JIS B 0601-Definitions and Designation of Surface Roughness

JIS K 5400-Testing Methods for Organic Coatings

JIS K 5516-Ready Mixed Paint (Synthetic Resin Type)

JIS K 5630-Testing Method of Antifouling Properties for Steel Ships' Bottom Paint

JIS K 5633-Etching Primer

JIS Z 1524-Pressure Sensitive Adhesive Cloth Tapes for Packaging

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(3) Ship Bottom Antifouling Coating This is a coating liquefied by dispersing the dirt preventing pigment, color pigment and extender pigment in oil varnish, and is used for preventing the ship bottom part from adhesion and breeding of living things in the sea by coating this paint on the paint film of the ship bottom rust inhibiting coating.

(4) Boot Topping Coating This is a coating liquefied by dispersing color pigment and extender pigment in oil varnish, and is used for preventing the boot topping from corrosion by applying this coating on the paint film of the ship bottom rust inhibiting coating.

(5) Top Side Rust Inhibiting Paint This is a coating liquefied by dispersing rust preventing pigment, color pigment and extender pigment in oil varnish or denatured phthalic resin varnish, and is used for preventing the top side of steel ship from corrosion.

(6) Top Side Over Coating Paint This is a coating liquefied by dispersing color pigment and extender pigment in oil varnish or denatured phthalic resin varnish, and is used for preventing the top side from corrosion and for adding the beauty by coating this paint on the paint film of top side rust inhibiting paint of the top side of steel ship.

3. Quality

The quality of the oleoresinous coatings for outside plating of steel ship shall be tested in accordance with 5. and comply with the requirements specified in Table 1. In this case, the test of antifouling property shall be performed in accordance with 5.16 (6).

Further, the weathering test shall be performed during long-term control of quality on the products manufactured in the past in accordance with 9.4 (9) of JIS K 5400. When the result is adequate, the existing products shall be taken as "adaptability".

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Table 1

Item \ Classification	Ship bottom rust inhibiting coating		Ship bottom antifouling coating	Boot topping coating	Top side rust inhibiting paint	Top side over coating paint
	Class 1	Class 2				
Condition in container	To be free from hard lumps and be uniform when agitated.					
Grainning μm	—			40 max.	50 max.	40 max.
Skinning test	—				To be free from skinning	
Workability	The work of airless spray coating shall be able to be performed without hindrance.					
Drying time h	Within 5		Within 10	Within 8	Within 10	
Appearance of paint film	The paint film is normal in appearance.					
Storage stability	To be stable during the storage at the temperature of 50°C for 72 h.					
Contrast ratio — Black	—					0.95 min.
Contrast ratio — White, tint color and colored paint	—					0.90 min.
Overcoatability	Overcoating work is free from hindrance		—		Overcoating work is free from hindrance	—

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Table 1 (Continued)

Classification / Item	Ship bottom rust inhibiting coating		Ship bottom antifouling coating	Boot topping coating	Top side rust inhibiting paint	Top side over coating paint
	Class 1	Class 2				
Flexibility	–			To be endurable for the bend with the diameter of 10 mm when heated at a temperature of 80 to 85℃ for 3 h.	To be endurable for the bend with the diameter of 6 mm when heated at a temperature of 80 to 85℃ for 3 h.	
Adhesive property between paint films	–				To be free from peeling	
Salt water resistance	To be free from abnormality even when immersed in sodium chloride solution (3 w/v %) for 96 h.		–		To be free from abnormality even when immersed in sodium chloride solution (3 w/v %) for 96 h.	–
Salt spray test	–			To be endurable to the salt spray test for 500 h.	–	

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Table 1 (Continued)

Item \ Classification	Ship bottom rust inhibiting coating		Ship bottom antifouling coating	Boot topping coating	Top side rust inhibiting paint	Top side over coating paint
	Class 1	Class 2				
Antifouling property	—		To be endurable for the immersion-in-sea test for 12 months.	—		
Weather resistance	—			To be endurable for the weathering test for 12 months.	—	To be endurable for the weathering test for 12 months.
Heating residue %	60 min.		70 min.	60 min.	65 min.	60 min.
Solvent insoluble matter %	—			30 min.	30 min.	—
Aluminium %	—	10 min.		—		

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