



EPOMARINE EX21 PLUS

Product description

Epomarine EX21 PLUS is a two pack, coal-tar free, high solids and high build modified epoxy coating for water ballast tank cargo holds etc.

Gives excellent long term corrosion protection in sea water with light shade finish.

Recommended use

- To be used in water ballast tanks, in cargo holds and in cofferdams, etc.
- For application in water ballast tanks at newbuilding stage in accordance with PSPC (IMO Res. MSC.215(82)).
- For winter use, available with quick drying hardener for low temperature. Refer to technical data sheet of Epomarine EX21 PLUS QD. (Base is common use for all seasons.)

Film thickness and spreading rate

	Minimum	Maximum	Typical
Film thickness, dry (µm)	125	250	160
Film thickness, wet (µm)	178	356	228
Theoretical spreading rate (m ² /L)	5.6	2.8	4.4

* The theoretical spreading rate has been calculated according to the method of ISO 3233:1998.

Approvals

PSPC PRODUCT ID Beige Base: 18475002, Grey Base: 18475001
 Hardener: 18475907

Physical Properties

Colour	Beige, Grey		
Solids (vol%) (*)	70.2 ± 2		
Flash point	Base	21.5°C	
	Hardener	28.0°C	
Specific Gravity (*)	Base	1.51	(Beige, Grey)
	Hardener	0.92	

* Pre-diluted products are also available on customer request.

Surface Preparation

All surfaces should be clean, dry and free from contamination. The surface should be assessed and treated in accordance with ISO 8504.

Bare steel - including damaged shopprimed surface, erection area, butt, heat affected area

Power tool cleaning to St3 (ISO 8501-1:2007)

Blast cleaning to Sa 2 1/2 (ISO 8501-1:2007)

Roughness on the blasted surface: using abrasives suitable to achieve grade Medium S (30-75 µm, Rz) (ISO 8503-2)



Soluble salt - Maximum 50 mg/m² (ISO 8502-6 & -9:1998)

Dust grade - Dust quantity rating "1" for dust size class "3", "4" or "5" (ISO 8502-3: 1993)

Lower dust size classes to be removed if visible on the surface to be coated without magnification.

Shoppripped steel

Intact shop primer surface

- The shop primer which has passed a pre-qualification test shall be cleaned by sweep blasting, high-pressure washing or equivalent method
- Sa 2 removing at least 70% of intact shop primer, which has not passed a prequalification test specified by PSPC procedures

Damaged shop primer

- Sa 2 1/2 on damaged shop primer and welds

Surface treatment after erection

- Butts: St3 or better or Sa 2 1/2 where applicable
- Small damages up to 2% of total area: St 3
- Contiguous damages over 25 m2 or over 2% of the total area of the tank: Sa 2 1/2
- Coating in overlap to be feathered

Other precautions

Epomarine EX21 PLUS cannot be applied onto the coated surface with the other coating materials except approved coatings. The surface should be required blast cleaning to remove whole coated materials.

The details should be consulted by Technical Department of Kansai Paint Marine Co., Ltd.

Condition during application

The temperature of the substrate should be minimum at least 3°C above the dew point of the air, temperature and relative humidity measured in the vicinity of the substrate.

Recommended ambient temperature is 10 to 40°C and below 85% relative humidity.

Application methods

Spray	Use airless spray or conventional spray Recommended stripe coating onto hard-to-spray areas by brush and roller.
Brush	Recommended for stripe coating and small areas, care must be taken to achieve the specified dry film thickness.
Roller	May be used for small areas, care must be taken to achieve the specified dry film thickness.

Application data

Mixing ratio (weight)	Base/Hardener = 88/12								
Mixing	Add hardener into Base and mix them thoroughly until uniform.								
Pot life (hr)	<table border="1"> <thead> <tr> <th>5°C</th> <th>10°C</th> <th>20°C</th> <th>30°C</th> </tr> </thead> <tbody> <tr> <td>-*</td> <td>12</td> <td>8</td> <td>4</td> </tr> </tbody> </table>	5°C	10°C	20°C	30°C	-*	12	8	4
5°C	10°C	20°C	30°C						
-*	12	8	4						
Thinner/Cleaner	* Use Epomarine EX21 PLUS QD when the temperature is low. Thinner No. 17, Other thinner approved by Kansai Paint Marine Co., Ltd. Maximum allowable addition 5% by weight								
Guiding data airless spray									
Pressure at nozzle	10 - 25 Mpa (100 - 250 kg/cm2)								
Nozzle tip	GRACO 519 - 723 or equivalent								
Tip filter	Confirm in clean condition before application start								



Note - The paint temperature after mixing is recommended above 15°C.
When the temperature is lower than 15°C, the paint viscosity becomes higher.
High build property is spoiled due to excess amount of thinner dilution.
It causes poor DFT control.

Drying time	5°C	10°C	20°C	30°C
Surface dry	-	3 hr	2 hr	1 hr
Dry hard	-	24 hr	12 hr	10 hr
Dry to recoat, minimum	-	30 hr	16 hr	12 hr
Dry to recoat, maximum	-	7 D	7 D	7 D
Time to ballasting	-	7 D	7 D	7 D

Typical paint system

Epomarine EX21 PLUS 2 x 160 µm (The maximum dry film thickness is 1,500 µm in total.)

Storage

The product must be stored indoor condition without moisture and in accordance with national regulations.
Storage conditions are to keep the container in dry, cool, well ventilated space and away from source of heat and ignition.

Fire Services Act (Japan) Base Dangerous Materials Class 4 Flammable Liquids / Group 2 Petroleum
Hardener Dangerous Materials Class 4 Flammable Liquids / Group 2 Petroleum

Shelf life 12 months at room temperature
Material over shelf life may be used subject to inspection.
It should be consulted by our specialists.

For the other detailed information, please refer to the Safety Data Sheet (SDS).

Handling

Stir well before use.

Packing size

20 kg unit: Base 17.6 kg / Hardener 2.4 kg

Health and safety

Please observe the precautionary notices displayed on the container. Use under well ventilated conditions. Do not breathe or inhale mist. Avoid skin contact. Spillage on the skin should immediately be removed with suitable cleanser, soap and water. Eyes should be well flushed with water and medical attention sought immediately.

For detailed information on the health and safety hazards and precautions for use of this product, please refer to the Safety Data Sheet (SDS).



KANSAI PAINT MARINE CO.,LTD.



N04300
PSPC Rev.1
SP21-0003E

Disclaimer

The information given on this technical data sheet is to the best of our knowledge and accurate at the time of printing. However, as the product is often used under conditions beyond our control, we cannot guarantee anything but the quality of the product itself.

The information contained on this data sheet is subject to modification at any time due to our policy of modification at any time due to our policy of modification and product development.
