

Technical Data

Safeguard Universal ES



Product description

Safeguard Universal ES is a two-pack corrosion preventing epoxy vinyl-based coating.

Recommended use

Safeguard Universal ES is normally used as an anti-corrosive undercoat for various paint systems or as a sealer coat on antifouling. It provides a very good adhesion for self-polishing antifouling as well as various topcoats (not alkyds).

Film thickness and spreading rate

	Minimum	Maximum	Typical
Film thickness, dry (μm)	50	200	150
Film thickness, wet (μm)	80	325	240
Theoretical spreading rate (m^2/l)	12,4	3,1	4,1

Comments

If Safeguard Universal ES is used as a tie coat applied with dry film thickness 50-75 μm on existing antifouling systems, it is recommended to add 5-10% Jotun Thinner No. 17.

Physical properties

Colour	Grey, Red
Solids (vol %)*	62 ± 2
Flash point	27°C ± 2 (Setaflash)
VOC	3 lbs/gal (360 gms/ltr) USA-EPA Method 24 330 gms/ltr UK-PG6/23(97). Appendix 3
Gloss	Semigloss
Water resistance	Excellent
Abrasion resistance	Good
Solvent resistance	Good
Chemical resistance	Good
Flexibility	Good

*Measured according to ISO 3233:1998 (E)

Hong Kong rules:

Category of paints - Other vessel coatings; VOC 360 gms/ltr HK EPD method (Ready to use); Exempt compound - N/A; Specific gravity: 1.40 gms/ltr (A+B);

Both VOC and Specific gravity values provided are typical values, subject to changes when different colour involved.

Surface preparation

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

Coated surfaces

Clean, dry and undamaged compatible primer. Contact your local Jotun office for more information.

Other surfaces

The coating may be used on other substrates. Please contact your local Jotun office for more information.

Condition during application

The temperature of the substrate should be minimum -5°C and at least 3°C above the dew point of the air, temperature and relative humidity measured in the vicinity of the substrate. Good ventilation is required in confined areas to ensure proper drying. The coating should not be exposed to oil, chemicals or mechanical stress until cured.

Application methods

Spray	Use airless spray
Brush	Recommended for stripe coating and small areas, care must be taken to achieve the specified dry film thickness.

Application data

Mixing ratio (volume)	5:1
Mixing	5 parts Comp. A (base) to be mixed thoroughly with 1 part Safeguard Universal ES, Comp. B (curing agent)
Induction time	10 minutes.
Pot life (23°C)	2 hours (Reduced at higher temp.)
Thinner/Cleaner	Jotun Thinner No. 17
Guiding data airless spray	
Pressure at nozzle	15 MPa (150 kp/cm ² , 2100 psi)
Nozzle tip	0.48-0.78 mm (0.019-0.031")
Spray angle	65-80°
Filter	Check to ensure that filters are clean.

Note	<ul style="list-style-type: none">* The temperature of the mixture of base and curing agent is recommended to be at least 15°C, otherwise extra solvent may be required to obtain correct viscosity.* Too much solvent results in lower sag resistance and slower cure.* Thinner should be added after mixing components.
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Drying time

Drying times are generally related to air circulation, temperature, film thickness and number of coats, and will be affected correspondingly. The figures given in the table are typical with:

- * Good ventilation (Outdoor exposure or free circulation of air)
- * Typical film thickness
- * One coat on top of inert substrate

Safeguard Universal ES:

Substrate temperature	-5°C	0°C	10°C	23°C	40°C
Surface dry	24 h	12 h	5 h	2 h	1,5 h
Through dry	44 h	30 h	18 h	10 h	6 h
Cured	21 d	14 d	5 d	3 d	2 d
Dry to recoat, minimum ¹	44 h	30 h	18 h	10 h	6 h

Substrate temperature	5°C
Surface dry	8 h
Through dry	24 h
Cured	7 d
Dry to recoat, minimum ¹	24 h
Dry to recoat, maximum	

1. The surface should be free from chalking and contamination prior to application. Best intercoat adhesion for overcoating with antifouling is achieved when the subsequent coat is applied before preceding coat has cured.

The given data must be considered as guidelines only. The actual drying time/times before recoating may be shorter or longer, depending on film thickness, ventilation, humidity, underlying paint system, requirement for early handling and mechanical strength etc. A complete system can be described on a system sheet, where all parameters and special conditions could be included.

Typical paint system

Jotamastic 87 Aluminium	1 x 200 µm	(Dry Film Thickness)
Safeguard Universal ES	1 x 100 µm	(Dry Film Thickness)
Antifouling as required		

Other systems may be specified, depending on area of use

Storage

The product must be stored in accordance with national regulations. Storage conditions are to keep the containers in a dry, cool, well ventilated space and away from source of heat and ignition. Containers must be kept tightly closed.

Handling

Handle with care. Stir well before use.

Packing size

18 litre unit: 15 litres Comp. A (base) in a 20 litre container and 3 litres Safeguard Universal ES, Comp. B (curing agent) in a 3 litre container.

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, we refer to the Material Safety Data Sheet.

DISCLAIMER

The information in this data sheet is given to the best of our knowledge based on laboratory testing and practical experience. However, as the product can be used under conditions beyond our control, we can only guarantee the quality of the product itself. We also reserve the right to change the given data without notice. Minor product variations may be implemented in order to comply with local requirements.

If there is any inconsistency in the text the English (UK) version will prevail.

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