Technical Data Sheet

Safeguard Universal ES

Product description

This is a two component polyamide cured vinyl epoxy based coating. Specially designed as a tie coat between epoxy primers and antifouling systems. Can be used as tie coat / holding primer for a wide range of topcoats. To be used as tie coat in atmospheric and immersed environments. Suitable on approved primers on aluminium, carbon steel, galvanised and stainless steel substrates. It can be applied at sub zero surface temperatures.

Typical use

General:
Suitable as tie coat for a wide range of Jotun antifouling products.

Marine:
Exterior areas, specially designed for outside hull, may be used on superstructure, decks and other external areas.

Protective:
Suitable as tie coat in a complete system exposed to a wide range of corrosive environments up to very high, and immersed. Recommended for offshore environments, including splash zones, water inlets, cooling pipes, jetties and bridges.

Colours

plum

Product data

Property	Test/Standard	Description
Solids by volume	ISO 3233	62 ± 2 %
Gloss level (GU 60 °)	ISO 2813	semi gloss (35-70)
Flash point	ISO 3679 Method 1	27 °C
Density	calculated	1.4 kg/l

Region	Regulation	Test Standard	VOC Value
US	CARB(SCM)2020 / SCAQMD rule 1113	Calculated	362 g/l
Hong Kong	Air Pollution Control (VOC) Regulation	Calculated	362 g/l
EU	European Paint Directive 2004/42/CE	Calculated	362 g/l
EU IED	Industrial Emission Directive 2010/75/EU	Calculated	362 g/l
Korea	Korea Clean Air Conservation Act	KS M ISO 11890-1	371 g/l
China	Mandatory national standard of China	GB 30981.2-2025	355 g/l

This Technical Data Sheet supersedes those previously issued.
The Technical Data Sheet (TDS) is recommended to be read in conjunction with the Safety Data Sheet (SDS) and the Application Guide (AG) for this product. For your nearest local Jotun office, please visit our website at www.jotun.com

The provided data is typical for factory produced products, subject to slight variation depending on colour.

Gloss description: According to Jotun Performance Coatings' definition.

Film thickness per coat

Typical recommended specification range

Dry film thickness	50	-	200	µm
Wet film thickness	80	-	325	µm
Theoretical spreading rate	12.4	-	3.1	m²/l

If 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.

Surface preparation

Surface preparation summary table

	Surface preparation	
Substrate	**Minimum**	**Recommended**
Coated surfaces	Clean, dry and undamaged compatible coating	Clean, dry and undamaged compatible coating

Application

Application methods

The product can be applied by

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

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Product mixing ratio (by volume)

Safeguard Universal ES Comp A	5 part(s)
Safeguard Universal ES Comp B	1 part(s)

Thinner/Cleaning solvent

Thinner: Jotun Thinner No. 17

Guiding data for airless spray

Nozzle tip (inch/1000): 19-25

Pressure at nozzle (minimum): 150 bar/2100 psi

Drying and Curing time

Substrate temperature	-5 °C	0 °C	5 °C	10 °C	23 °C	40 °C
Surface (touch) dry	24 h	12 h	8 h	5 h	2 h	1.5 h
Walk-on-dry	44 h	30 h	24 h	18 h	10 h	6 h
Dry to over coat, minimum	44 h	30 h	24 h	18 h	10 h	6 h
Dried/cured for immersion	4 d	3 d	2 d	36 h	20 h	12 h
Dried/cured for service	21 d	14 d	7 d	5 d	3 d	2 d

For maximum overcoating intervals, refer to the Application Guide (AG) for this product.

Drying and curing times are determined under controlled temperatures and relative humidity below 85 %, and at average of the DFT range for the product.

Surface (touch) dry: The state of drying when slight pressure with a finger does not leave an imprint or reveal tackiness.

Walk-on-dry: Minimum time before the coating can tolerate normal foot traffic without permanent marks, imprints or other physical damage.

Dry to over coat, minimum: The recommended shortest time before the next coat can be applied.

Dried/cured for immersion: Minimum time before the coating can be permanently immersed in sea water.

Dried/cured for service: Minimum time before the coating can be permanently exposed to the intended environment/medium.

Induction time and Pot life

Paint temperature	23 °C
Induction time	10 min
Pot life	2 h

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Heat resistance

	Temperature	
	Continuous	**Peak**
Dry, atmospheric	90 °C	110 °C
Immersed, sea water	40 °C	50 °C

Peak temperature duration max. 1 hour.

The temperatures listed relate to retention of protective properties. Aesthetic properties may suffer at these temperatures.

Note that the coating will be resistant to various immersion temperatures depending on the specific chemical and whether immersion is constant or intermittent. Heat resistance is influenced by the total coating system. If used as part of a system, ensure all coatings in the system have similar heat resistance.

Product compatibility

Depending on the actual exposure of the coating system, various primers and topcoats can be used in combination with this product. Some examples are shown below. Contact Jotun for specific system recommendation.

Previous coat:	epoxy, epoxy mastic
Subsequent coat:	silyl acrylate antifoulings, silyl methacrylate antifoulings, ion exchange antifoulings, vinyl epoxy, epoxy, polyurethane

Packaging (typical)

	Volume (litres)	**Size of containers (litres)**
Safeguard Universal ES Comp A	15	20
Safeguard Universal ES Comp B	3	3

The volume stated is for factory made colours. Note that local variants in pack size and filled volumes can vary due to local regulations.

Storage

The product must be stored in accordance with national regulations. Keep the containers in a dry, shaded, cool, well-ventilated space and away from sources of heat and ignition. Containers must be kept tightly closed. Handle with care.

Shelf life at 23 °C

Safeguard Universal ES Comp A	48 month(s)
Safeguard Universal ES Comp B	48 month(s)

In some markets commercial shelf life can be dictated shorter by local legislation. The above is minimum shelf life, thereafter the paint quality is subject to re-inspection.

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Caution

This product is for professional use only. The applicator and operator shall be trained, experienced and have the capability and equipment to mix/stir and apply the coatings correctly and according to Jotun's technical documentation. Applicators and operators should use appropriate personal protection equipment when using this product. This guideline is given based on the current knowledge of the product. Any suggested deviation to suit the site conditions shall be forwarded to the responsible Jotun representative for approval before commencing the work.

Health and safety

Please observe the precautionary notices displayed in the container. Use under well-ventilated conditions. Do not inhale spray 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 sought medical attention immediately.

Colour variation

When applicable, products primarily meant for use as primers or antifoulings may have slight colour variations from batch to batch. Such products and epoxy-based products used as a finish coat may chalk when exposed to sunlight and weathering.

Colour and gloss retention on topcoats/finish coats may vary depending on type of colour, exposure environment such as temperature, UV intensity etc., application quality and generic type of paint. Contact your local Jotun office for further information.

Disclaimer

The information in this document is given to the best of Jotun's knowledge, based on laboratory testing and practical experience. Jotun's products are considered as semi-finished goods and as such, products are often used under conditions beyond Jotun's control. Jotun cannot guarantee anything but the quality of the product itself. Minor product variations may be implemented in order to comply with local requirements. Jotun reserves the right to change the data given without further notice.

Users should always consult Jotun for specific guidance on the general suitability of this product for their needs and specific application practices.

If there is any inconsistency between different language issues of this document, the English (United Kingdom) version will prevail.

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