Technical Data Sheet

Tankguard 412

Product description

This is a two component solvent free polyamine cured epoxy coating. It is a general purpose tank lining with good chemical resistance. Can be used as primer, mid coat or finish coat in atmospheric and immersed environments. Suitable for properly prepared carbon steel, galvanised steel, stainless steel and concrete substrates.

Typical use

Marine:
Can be used as a coating for potable water, grey water and crude oil tanks.

Protective:
Recommended as an internal lining for offshore, onshore and buried tanks and pipes. Refer to Protective Product Resistance List. Recommended for offshore environments, including splash zones, refineries, power plants, bridges, buildings, mining equipment and general structural steel. Meets the requirement of API 652 guideline as a thick film reinforced lining.

Approvals and certificates

Tested in accordance to AS/NZS 4020:2018, testing of products for use in contact with drinking water.
Meets the requirements of ANSI/AWWA standard C210-15. Suitable for water pipelines.
Certified in accordance with NSF/ANSI/CAN 61 for potable water, and meet criteria of NSF/ANSI/CAN 600.

Additional certificates and approvals may be available on request.

Colours

black, green, red, white, light grey

Product data

Property	Test/Standard	Description
Solids by volume	ISO 3233	98 ± 2 %
Gloss level (GU 60 °)	ISO 2813	gloss (70-85)
Flash point	ISO 3679 Method 1	100 °C
Density	calculated	1.5 kg/l

Region	Regulation	Test Standard	VOC Value
US	CARB(SCM)2020 / SCAQMD rule 1113	US EPA Method 24	132 g/l
Hong Kong	Air Pollution Control (VOC) Regulation	US EPA Method 24	132 g/l
EU	European Paint Directive 2004/42/CE	Calculated	140 g/l
EU IED	Industrial Emission Directive 2010/75/EU	Calculated	140 g/l
Korea	Korea Clean Air Conservation Act	Calculated	140 g/l
China	GB 30981-2020 Limit of harmful substances of industrial protective coatings	GB/T 34682-2017 8.3	48 g/l

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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.

The VOC values refer to white colour.

Film thickness per coat

Typical recommended specification range

Dry film thickness	150	-	500	µm
Wet film thickness	150	-	500	µm
Theoretical spreading rate	6.5	-	2	m²/l

This product can be applied up to 50 % higher than maximum specified film thickness without loss of technical properties.

Surface preparation

Surface preparation summary table

Substrate	Surface preparation	
	Minimum	Recommended
Carbon steel	Sa 2½ (ISO 8501-1)	Sa 2½ (ISO 8501-1)
Stainless steel	The surface shall be hand or machine abraded with non-metallic abrasives or bonded fibre machine or hand abrasive pads to impart a scratch pattern to the surface.	Abrasive blast cleaning to achieve a surface profile using non-metallic abrasive media which is suitable to achieve a sharp and angular surface profile.
Galvanised steel	The surface shall be clean, dry and appear with a rough and dull profile.	Sweep blast-cleaning using non-metallic abrasive leaving a clean, rough and even pattern.
Concrete	Dry abrasive blast cleaning to SSPC-SP 13/NACE No. 6.	Dry abrasive blast cleaning to SSPC-SP 13/NACE No. 6.

Optimum performance, including adhesion, corrosion protection, heat resistance and chemical resistance is achieved with recommended surface preparation.

Application

Application methods

The product can be applied by

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

Product mixing ratio (by volume)

Tankguard 412 Comp A	2 part(s)
Tankguard 412 Comp B	1 part(s)

Thinner/Cleaning solvent

Prior to application in potable water tanks flush the application equipment with Jotun Thinner No. 28. Use Jotun Thinner No. 17 for cleaning equipment after application.

Guiding data for airless spray

Nozzle tip (inch/1000):	19-25
Pressure at nozzle (minimum):	175 bar/2500 psi

Drying and Curing time

Substrate temperature	10 °C	23 °C	40 °C
Surface (touch) dry	15 h	6 h	1.5 h
Walk-on-dry	30 h	12 h	4 h
Dry to over coat, minimum	30 h	12 h	4 h
Dried/cured for service	15 d	7 d	4 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 60 %, 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 service: Minimum time before the coating can be permanently exposed to the intended environment/medium.

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Induction time and Pot life

Paint temperature	23 °C
Induction time	10 min
Pot life	1 h

Heat resistance

	Temperature	
	Continuous	Peak
Dry, atmospheric	120 °C	140 °C
Immersed, sea water	50 °C	60 °C
Immersed, crude oil	70 °C	80 °C

Further resistance information can be found in Protective Product Resistance List available on Jotun's website, or contact your local Jotun office.

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

Subsequent coat: epoxy

Packaging (typical)

	Volume (litres)	Size of containers (litres)
Tankguard 412 Comp A	10	20
Tankguard 412 Comp B	5	5

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.

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Shelf life at 23 °C

Tankguard 412 Comp A	12 month(s)
Tankguard 412 Comp B	12 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.

Environmental Documentation

This product can contribute to Green Building Standard credits. Please refer to Jotun.com for more information or contact your local Jotun representative.

Environmental Product Declaration (EPD) is available at www.epd-norge.no

Caution

This product is for professional use only. The applicators and operators 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 shall 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 on 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 medical attention sought 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 given data 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.