Technical Data Sheet

Jotachar 1709

Product description

This is a two component solvent free amine cured 100 % solids epoxy intumescent coating. Specially designed as an intumescent coating to provide fire protection for steel in hydrocarbon pool fires for different types of structures and equipment. No additional reinforcing mesh is required. To be used as mid coat as part of a complete system in atmospheric environments. Suitable on approved primers on carbon steel, aluminium, hot dipped galvanized steel and stainless steel substrates, subject to certification.

Typical use

Typically used in the oil, gas and energy industries. Suitable in both offshore and onshore environments for the passive fire protection of structural carbon steel, stainless steel, GRP and concrete, subject to certification. In line with all epoxy intumescent technologies, the product is suitable for use on pipe work, vessels or equipment. At higher service temperatures, Jotatherm TB550 should be used as thermal syntactic insulation between substrate and Jotachar or as thermal insulation on top of Jotachar for atmospheric heat radiation. Please contact your local sales representative for more information.

Approvals and certificates

ANSI/UL 1709 5th edition: Rapid Rise Fire Tests of Protection Materials for Structural Steel
UL 2431: Safety Durability of Fire Resistive Coatings and Materials
ISO 22899-1: Determination of the resistance to jet fires
ISO 20088-1 & 3: Determination of the resistance to cryogenic spillage
GB 14907 2018: Resistance test for fire resistive coating for steel structure
Pre-qualified in accordance with NORSOK M-501 in selected systems
ISO 20340 Cyclic Durability Testing
Resistance to Blast Over Pressure up to 4BarG
NFPA 290 Hose Stream Resistance

Additional certificates and approvals may be available on request.

Colours

grey

Product data

Property	Test/Standard	Description
Solids by volume	ISO 3233	100 %
Flash point	ISO 3679 Method 1	100 °C

Region	Regulation	Test Standard	VOC Value
US	CARB(SCM)2020 / SCAQMD rule 1113	US EPA Method 24	2 g/l
Hong Kong	Air Pollution Control (VOC) Regulation	US EPA Method 24	2 g/l
EU	European Paint Directive 2004/42/CE	Calculated	64 g/l
EU IED	Industrial Emission Directive 2010/75/EU	Calculated	64 g/l
Korea	Korea Clean Air Conservation Act	KS M ISO 11890-1	14 g/l
China	Mandatory national standard of China	GB 30981.2-2025	11 g/l

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

Applied density by plural component spray (ISO 1183:1987 Method A): 1.0 ± 0.1 g/cm³
Note: Applied density value is typical and provided for guidance only. The final applied density will be affected by equipment setup and/or method of application. Please refer to the Application Guide for this product.

Film thickness per coat

Typical recommended specification range

Dry film thickness:
4 - 30 mm (dependent upon the fire case and project specific requirements)

Theoretical spreading rate:
1 kg of Jotachar 1709 will cover 1 m² per 1 mm applied (based on plural component spray)

Typical first coat thickness achievable is 5.5 mm.
Subsequent coats of up to 10 mm can be applied in a continuous application process, typically carried out after 60 minutes dependent on ambient conditions.
High film build can be achieved dependent upon steelwork configuration, geometry, ambient conditions, pump type and set up as well as primer used.
Maximum WFT is the thickness at which the system can be applied without sagging or slumping.

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 two component heated plural spray unit or modified airless spray (with heating equipment). Refer to the Application Guide (AG) for additional information. Note: All pumps used for the application of this product must be certified by Jotun.
Trowel:	Refer to the Application Guide (AG) for additional information.

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Product mixing ratio (by weight)

Jotachar 1709 Comp A	1 part(s)
Jotachar 1709 Comp B	1 part(s)

Individual components must have been stored for minimum 12 hours at 25 to 30 °C (77 to 86 °F). Stir/mix thoroughly with a power agitator before application.

Thinner/Cleaning solvent

Thinner: Jotun Thinner No. 7 / Jotun Thinner No. 17 / Jotun Thinner No. 10

Thinning max.: 5 %

Thinning is typically 2-3 % by volume for modified airless spray and manual application.
For rolling, use Jotun Thinner No. 7 or Jotun Thinner No. 17.

Note: Korean VOC regulation "Korea Clean Air Conservation Act" and its corresponding thinning limit will prevail over recommended thinning volumes.

Cleaning solvent: Jotun Thinner No. 17

When thinners are used as a cleaning solvent, the use must be in accordance with prevailing local regulations.

Guiding data for airless spray

Nozzle tip (inch/1000):	31-41
Pressure at nozzle (minimum):	200 bar/2900 psi

Drying and Curing time

Substrate temperature	5 °C	15 °C	23 °C	40 °C
Surface (touch) dry	6 h	3 h	1 h	1 h
Walk-on-dry	24 h	12 h	6 h	3 h
Dry to over coat, minimum	6 h	3 h	2 h	1 h
Dried/cured for service	24 h	12 h	6 h	3 h

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

Dry to overcoat minimum is with self. See additional guidance for Topcoating.

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

Topcoating
The system should be dry to handle and coating thickness gauge should not leave an indentation on the coating. Prior to application of topcoat, the applicator must ensure that the specified dry film thickness has been achieved.

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.

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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.

Induction time and Pot life

Paint temperature	15 °C	23 °C
Pot life	45 min	40 min

The given figures are for trowel and roller workability.
Working pot life is not applicable for plural airless spray application as the material is mixed at the spray gun during application. For single leg airless spray and manual application, mixed material should be applied with minimum delay. Due to exothermic reaction, the larger the volume of mixed material, the shorter the pot life will be.

Heat resistance

Dry, atmospheric
Continuous: 95 °C

Can be specified up to 95°C without topcoat. At temperatures above 95°C to 120°C, a suitable topcoat is to be used. Subject to technical review, please contact Jotun.

Can be specified from 95°C to 150°C with Jotatherm TB550 as a heat reduction layer. Subject to technical review, please contact Jotun.

Above 150°C, alternative insulation arrangements will be required.

Vessel blow down, steam out: Up to 180 °C for durations not exceeding 24 hours.

Oil and gas flaring: Up to 120 °C to accommodate accidental and infrequent surface temperature increases due to gas flaring operations within offshore and onshore facilities, for durations not exceeding 60 minutes.

Aesthetic properties may suffer at these elevated temperatures, this effect could be lessened with the selection of a suitable topcoat.

Please contact your local sales representative for more information.

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, zinc epoxy, epoxy zinc phosphate, epoxy mastic

Subsequent coat: crosslinked acrylic, polyurethane, polysiloxane, epoxy

Primers used under this product must be approved by Jotun. For the list of approved primers, please consult Jotun.

See Application Guide.

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Packaging (typical)

	Weight	Size of containers (litres)
Jotachar 1709 Comp A	20 kg / 10 kg / 2.5 kg	20 / 10
Jotachar 1709 Comp B	20 kg / 10 kg / 2.5 kg	20 / 10 / 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.

Storage temperature not to exceed 35 °C. Store away from direct sunlight. Protect from frost.

Shelf life at 23 °C

Jotachar 1709 Comp A	18 month(s)
Jotachar 1709 Comp B	18 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 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

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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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