Resist ZES

Product description

This is a two component moisture curing inorganic zinc ethyl silicate coating. It is a zinc dust containing product. It provides good corrosion protection as part of a complete coating system. It is heat resistant up to 540 °C (1004 °F). To be used as primer in atmospheric environments. Suitable for properly prepared carbon steel substrates only. This product complies with ASTM D520 type II zinc dust.

Typical use

Protective:
Suitable for structural steel and piping to be exposed to corrosive environments. Recommended for offshore environments, refineries, power plants, bridges, buildings and mining equipment. Designed as a primer in coating systems where durability is required.

Colours

grey

Product data

Property	Test/Standard	Description
Solids by volume	OCCA Monograph No. 4	69 ± 2 %
Gloss level (GU 60 °)	ISO 2813	matt (0-35)
Flash point	ISO 3679 Method 1	16 °C
Density	calculated	2.1 kg/l

Region	Regulation	Test Standard	VOC Value
US	CARB(SCM)2020 / SCAQMD rule 1113	US EPA Method 24	397 g/l
Hong Kong	Air Pollution Control (VOC) Regulation	US EPA Method 24	397 g/l
EU	European Paint Directive 2004/42/CE	Calculated	485 g/l
EU IED	Industrial Emission Directive 2010/75/EU	Calculated	485 g/l
Korea	Korea Clean Air Conservation Act	Calculated	502 g/l
China	Mandatory national standard of China	GB 30981.2-2025	400 g/l

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

Gloss description: According to Jotun Performance Coatings' definition.

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

Film thickness per coat

Typical recommended specification range

Dry film thickness	50	-	90	µm
Wet film thickness	75	-	130	µm
Theoretical spreading rate	13.8	-	7.7	m²/l

There is a risk of mud-cracking if the thickness exceeds 120 µm.

Surface preparation

Surface preparation summary table

Substrate	Surface preparation	
	Minimum	Recommended
Carbon steel	Sa 2½ (ISO 8501-1) with a surface profile Fine to Medium G (ISO 8503-2)	Sa 2½ (ISO 8501-1) with a surface profile Fine to Medium G (ISO 8503-2)

Application

Application methods

The product can be applied by

Spray:	Use air spray or airless spray.
Brush:	Recommended for stripe coating and small areas. Care must be taken to achieve the specified dry film thickness. In order to avoid settling of heavy zinc, continuous mechanical stirring during application is recommended.

Product mixing ratio (by volume)

Resist ZES Comp A	9 part(s)
Resist ZES Comp B	1.3 part(s)

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

Thinner/Cleaning solvent

Thinner: Jotun Thinner No. 4 / Jotun Thinner No. 25

Thinning max.: 5 %

Jotun Thinner No. 4: for fast evaporation
Jotun Thinner No. 25: for slow evaporation
Jotun Thinner No. 42: for slow evaporation (Korea only)

Jotun Thinner No. 28 can be used as alternative to Jotun Thinner No. 4 for fast evaporation.
Thinning is not normally required. Consult the local representative for advice during application in extreme conditions. Do not thin more than allowed by local environmental legislation.

Jotun Thinner No. 17 can be used as alternative cleaning solvent.

Guiding data for airless spray

Nozzle tip (inch/1000): 17-21

Pressure at nozzle (minimum): 100 bar/1400 psi

Drying and Curing time

Substrate temperature	5 °C	10 °C	23 °C	40 °C
Surface (touch) dry	1 h	30 min	15 min	10 min
Walk-on-dry	2 h	1 h	30 min	20 min
Dry to over coat, minimum	84 h	42 h	18 h	10 h
Dried/cured for service	84 h	42 h	18 h	10 h

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.

The given drying and curing times, as well as over coating intervals for inorganic zinc ethyl silicates are measured at relative humidity (RH) 80 % during application and curing. An even higher RH will increase the curing speed. The paint requires continuous RH above 50 % to cure.

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.

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

Induction time and Pot life

Paint temperature	23 °C
Pot life	5 h

Heat resistance

	Temperature	
	Continuous	Peak
Dry, atmospheric	400 °C	540 °C

This product can withstand a peak temperature of 540 °C (1000 °F) for a longer period as well. A continuous temperature above 400 °C (752 °F) will however affect the long term performance of an inorganic zinc silicate coating.

Peak temperature duration max. 1 hour.

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

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.

Subsequent coat: epoxy, silicone acrylic

Packaging (typical)

	Volume (litres)	Size of containers (litres)
Resist ZES Comp A	9	10
Resist ZES Comp B	1.3	20

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

Resist ZES Comp A	8 month(s)
Resist ZES 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.

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

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.

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