

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. 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 (60 °)	ISO 2813	matt (0-35)
Flash point	ISO 3679 Method 1	16 °C
Specific gravity	calculated	2,07 kg/l
VOC-USA / VOC Hong Kong	EPA Method 24	397 g/l
VOC-Solvent Emission Directive	SED (1999/13/EC)	236 g/kg

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

All data is valid for mixed paint.

Gloss level: According to Jotun Performance Coatings' definition.

Recommended film thickness per coat

Film thickness and spreading rate	Dry film thickness	Wet film thickness	Theoretical spreading rate (m ² /l)
	(µm)	(µm)	
Minimum	50	73	13,8
Maximum	90	130	7,7
Typical	75	109	9,2

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

Surface preparation

To secure lasting adhesion to the subsequent product all surfaces shall be clean, dry and free from any contamination.

Surface preparation summary table

Substrate	Surface preparation	
	Minimum	Recommended
Carbon steel	Sa 2½ (ISO 8501-1)	Sa 2½ (ISO 8501-1)

Application

Application methods

The product can be applied by

- Spray: Use airless spray or conventional 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)

Thinner/Cleaning solvent

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

Jotun Thinner No. 4: for fast evaporation.
Jotun Thinner No. 25: for slow evaporation.

Thinning max.: 5 %

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
Dried to over coat, minimum	84 h	42 h	18 h	10 h
Dried/cured for service	84 h	42 h	18 h	10 h

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

The given drying and curing times, as well as over coating intervals for an inorganic zinc ethyl silicate is depending on a continuous humidity of at least 50 % during application and curing. An even higher relative humidity will improve the curing speed.

Surface (touch) dry: The state of drying when slight pressure with a finger does not leave an imprint or reveal tackiness. Dry sand sprinkled on the surface can be brushed off without sticking to or causing damage to the surface.

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

Dried to over coat, minimum: The shortest time allowed 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	23 °C
Pot life	5 h

Heat resistance

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

Peak temperature duration max. 1 hour.

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

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

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

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, 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.

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

Products primarily meant for use as primers and antifoulings may have slight color variations from batch to batch. Such products may fade and chalk when exposed to sunlight and weathering.

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.