

## Penguard ZP AO

### Product description

This is a two component, polyamide cured, high molecular weight epoxy coating. Designed as a high build, all purpose coating for new construction. It contains 40 % zinc phosphate pigments by weight. Can be used as primer, mid coat, finish coat or as single coat system in atmospheric environments. Suitable for properly prepared carbon steel, galvanised steel and shop primed steel substrates.

### Typical use

Suitable for structural steel and piping to be exposed to corrosive environments. Recommended for offshore environments, refineries, power plants, bridges, buildings and mining equipment.

### Colours

yellow

### Product data

Property	Test/Standard	Description
Solids by volume	ISO 3233	53 ± 2 %
Flash point	ISO 3679 Method 1	23 °C
Density	calculated	1.4 kg/l

Region	Regulation	Test Standard	VOC Value
US	CARB(SCM)2020 / SCAQMD rule 1113	Calculated	412 g/l
Hong Kong	Air Pollution Control (VOC) Regulation	Calculated	412 g/l
EU	European Paint Directive 2004/42/CE	Calculated	412 g/l
EU IED	Industrial Emission Directive 2010/75/EU	Calculated	412 g/l
Korea	Korea Clean Air Conservation Act	Calculated	412 g/l

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

## Film thickness per coat

### Typical recommended specification range

Dry film thickness	40 - 60	µm
Wet film thickness	75 - 115	µm
Theoretical spreading rate	13.3 - 8.8	m <sup>2</sup> /l

## Surface preparation

### Surface preparation summary table

Substrate	Surface preparation	
	Minimum	Recommended
Carbon steel	St 3 (ISO 8501-1)	Sa 2½ (ISO 8501-1)
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.
Shop primed steel	Dry, clean and intact shop primer.	Sweep blasted or alternatively blasted to Sa 2 (ISO 8501-1) of at least 70 % of the surface.

## 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.

### Product mixing ratio (by volume)

Penguard ZP AO Comp A	4 part(s)
Penguard Comp B	1 part(s)

### Thinner/Cleaning solvent

Thinner:	Jotun Thinner No. 17
Thinning max.:	15 %

### Guiding data for airless spray

Nozzle tip (inch/1000):	17-23
Pressure at nozzle (minimum):	150 bar/2100 psi

## Drying and Curing time

Substrate temperature	10 °C	23 °C	40 °C
Surface (touch) dry	2 h	1 h	30 min
Walk-on-dry	14 h	6.5 h	4 h
Dry to over coat, minimum	8 h	4 h	2 h
Dried/cured for service	14 d	7 d	3 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 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	8 h

## Heat resistance

	Temperature	
	Continuous	Peak
Dry, atmospheric	120 °C	140 °C

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.

Previous coat: inorganic zinc silicate shop primer, zinc epoxy, zinc silicate  
Subsequent coat: acrylic, epoxy, polyurethane, polysiloxane

## Packaging (typical)

	<b>Volume (litres)</b>	<b>Size of containers (litres)</b>
Penguard ZP AO Comp A	16	20
Penguard Comp B	4	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.

### Shelf life at 23 °C

Penguard ZP AO Comp A	24 month(s)
Penguard 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.

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## 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.

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## 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.

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