Technical Data Sheet

Penguard Express ZP

Product description

Penguard Express ZP is a high-solids, high-build, fast-curing primer designed for reliable anti-corrosion performance in atmospheric areas. It is a two-component amine-cured epoxy coating pigmented with Zinc Phosphate (ZP).

Typical use

Suitable for structural steel exposed to corrosive environments in atmospheric conditions. Recommended for most areas in Protective new construction and large-scale maintenance projects on a properly prepared substrate. Abrasive blasting is recommended to achieve maximum adhesion and durability of the coating.

Approvals and certificates

Pre-qualified in accordance with NORSOK M-501 in selected systems
Tested in accordance to ISO 12944, up to C5 Very High, as a primer in selected system.

Consult your Jotun representative for details.

Additional certificates and approvals may be available on request.

Other variants available

Penguard ExpressPenguard Express MIOPenguard Express CF

Refer to separate TDS for each variant.

Colours

grey, red

Product data

Property	Test/Standard	Description
Solids by volume	ISO 3233	74 ± 2 %
Gloss level (GU 60 °)	ISO 2813	matt (0-35)
Flash point	ISO 3679 Method 1	32 °C
Density	calculated	1.6 kg/l

Region	Regulation	Test Standard	VOC Value
US	CARB(SCM)2020 / SCAQMD rule 1113	Calculated	269 g/l
Hong Kong	Air Pollution Control (VOC) Regulation	Calculated	269 g/l
EU	European Paint Directive 2004/42/CE	Calculated	269 g/l
EU IED	Industrial Emission Directive 2010/75/EU	Calculated	269 g/l
Korea	Korea Clean Air Conservation Act	KS M ISO 11890-1	271 g/l
China	GB 30981-2020 Limit of harmful substances of industrial protective coatings	GB/T 23985-2009 8.3	258 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.

Film thickness per coat

Typical recommended specification range

Dry film thickness	75	-	250	µm
Wet film thickness	100	-	340	µm
Theoretical spreading rate	9.9	-	3	m²/l

Surface preparation

Surface preparation summary table

Substrate	Surface preparation	
	Minimum	Recommended
Carbon steel	St 2 (ISO 8501-1)	Sa 2½ (ISO 8501-1)
Shop primed steel	Dry, clean and approved inorganic zinc shopprimer.	Sweep blasted or alternatively blasted to Sa 2 (ISO 8501-1) of at least 70 % of the surface.
Coated surfaces	Clean, dry and undamaged compatible coating	Clean, dry and undamaged compatible coating
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.

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

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

Thinner/Cleaning solvent

Thinner: Jotun Thinner No. 17

Guiding data for airless spray

Nozzle tip (inch/1000):	13-23
Pressure at nozzle (minimum):	150 bar/2100 psi

Drying and Curing time

Substrate temperature	-5 °C	0 °C	5 °C	10 °C	23 °C	40 °C
Surface (touch) dry	16 h	11 h	4 h	2 h	1 h	30 min
Walk-on-dry	38 h	24 h	10 h	6 h	3 h	2 h
Dry to over coat, minimum	24 h	14 h	8 h	4 h	2 h	1 h
Dried/cured for service		21 d	13 d	8 d	4 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	2 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, epoxy, epoxy mastic, zinc epoxy, zinc silicate, organic shop primer
Subsequent coat:	acrylic, epoxy, polyurethane, polysiloxane

Packaging (typical)

	Volume (litres)	Size of containers (litres)
Penguard Express ZP Comp A	4/16	5/20
Penguard Express Comp B	1/4	1/5

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 Express ZP Comp A	24 month(s)
Penguard Express Comp B	24 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.