Technical Data Sheet

Penguard Pro GF

Product description

This is a two component amine cured, glass flake reinforced, abrasion resistant epoxy coating. It is a surface tolerant, high solids, high build product. Specially designed as a universal, all round, new construction coating. Can be used as primer, mid coat, finish coat or as single coat system in atmospheric and immersed environments. Suitable for properly prepared carbon steel, stainless steel, aluminium, galvanised steel, concrete and thermally sprayed zinc substrates.

Typical use

Suitable for structural steel and piping to be exposed to corrosive environments up to very high and immersed. Recommended for offshore environments, including splash zones, refineries, power plants, bridges, buildings and mining equipment. Specially designed as a universal product in coating systems where extended durability is required. The product provides great flexibility in choice of dry film thickness range as well as area of use. Designed for areas where increased abrasion and impact resistance is needed such as decks, walkways and landing areas.

Approvals and certificates

Pre-qualified in accordance with NORSOK M-501 in selected systems

Additional certificates and approvals may be available on request.

Other variants available

Penguard Pro
Penguard Pro Alu

Refer to separate TDS for each variant.

Colours

selected range of colours

Product data

Property	Test/Standard	Description
Solids by volume	ISO 3233	75 ± 2 %
Gloss level (GU 60 °)	ISO 2813	semi gloss (35-70)
Flash point	ISO 3679 Method 1	32 °C
Density	calculated	1.4 kg/l

Region	Regulation	Test Standard	VOC Value
US	CARB(SCM)2020 / SCAQMD rule 1113	Calculated	226 g/l
Hong Kong	Air Pollution Control (VOC) Regulation	Calculated	227 g/l
EU	European Paint Directive 2004/42/CE	Calculated	227 g/l
EU IED	Industrial Emission Directive 2010/75/EU	Calculated	227 g/l
Korea	Korea Clean Air Conservation Act	KS M ISO 11890-1	271 g/l

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China	Mandatory national standard of China	GB 30981.2-2025	180 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	150	-	600	µm
Wet film thickness	200	-	800	µm
Theoretical spreading rate	5	-	1.3	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)
Stainless steel	The surface shall be hand or machine abraded with non-metallic abrasives or bonded fibre machine or hand abrasive pads to impart a scratch pattern to the surface.	Abrasive blast cleaning to achieve a surface profile using non-metallic abrasive media which is suitable to achieve a sharp and angular surface profile.
Aluminium	The surface shall be hand or machine abraded with non-metallic abrasives or bonded fibre machine or hand abrasive pads to impart a scratch pattern to the surface.	The surface shall be hand or machine abraded with non-metallic abrasives or bonded fibre machine or hand abrasive pads to impart a scratch pattern to the surface.
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.
Concrete	Minimum 4 weeks curing. Moisture content maximum 5 %. Mechanically prepare the existing concrete surface by scabbling, needle gun, mechanical disc grinding.	Minimum 4 weeks curing. Moisture content maximum 5 %. Prepare the surface by means of enclosed blast shot or diamond grinding and other appropriate means to abrade the surrounding concrete and to remove laitance.
Coated surfaces	Clean, dry and undamaged compatible coating	Clean, dry and undamaged compatible coating

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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 Pro GF Comp A	3 part(s)
Penguard Pro Comp B	1 part(s)

Thinner/Cleaning solvent

Thinner: Jotun Thinner No. 17

Guiding data for airless spray

Nozzle tip (inch/1000):	21-27
Pressure at nozzle (minimum):	200 bar / 2900 psi

Drying and Curing time

Substrate temperature	0 °C	5 °C	10 °C	15 °C	23 °C	40 °C
Surface (touch) dry	30 h	15 h	10 h	7 h	3 h	1 h
Walk-on-dry	55 h	34 h	22 h	16 h	6 h	4 h
Dry to over coat, minimum	45 h	26 h	16 h	12 h	4 h	3 h
Dried/cured for service			12 d	12 d	10 d	7 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.

Care should be taken when over coating at low temperatures as the full system will require higher temperatures to reach full cure and proper mechanical strength.

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	23 °C
Induction time	10 min
Pot life	1 h

Heat resistance

	Temperature	
	Continuous	Peak
Dry, atmospheric	120 °C	140 °C
Immersed, sea water	50 °C	-

Peak temperature duration max. 1 hour.

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

Note that the coating will be resistant to various immersion temperatures depending on the specific chemical and whether immersion is constant or intermittent. Heat resistance is influenced by the total coating system. If used as part of a system, ensure all coatings in the system have similar heat resistance.

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

Packaging (typical)

	Volume (litres)	Size of containers (litres)
Penguard Pro GF Comp A	15	20
Penguard Pro Comp B	5	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

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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 Pro GF Comp A	12 month(s)
Penguard Pro 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 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.

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