# Technical Data Sheet

# Penguard Pro

## Product description

This is a two component amine cured 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 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.

### 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 Alu
Penguard Pro GF

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 | 228 g/l |
| Hong Kong | Air Pollution Control (VOC) Regulation | Calculated | 228 g/l |
| EU | European Paint Directive 2004/42/CE | Calculated | 228 g/l |
| EU IED | Industrial Emission Directive 2010/75/EU | Calculated | 228 g/l |
| Korea | Korea Clean Air Conservation Act | Calculated | 265 g/l |
| China | Mandatory national standard of China | GB 30981.2-2025 | 202 g/l |



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

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 | 100 | - | 500 | µm |
| Wet film thickness | 133 | - | 667 | µm |
| Theoretical spreading rate | 7.5 | - | 1.5 | 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. | Cleanliness and surface profile corresponding to Sa 2½ (ISO 8501-1), Fine G (ISO 8503-2) |
| 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. | Cleanliness corresponding to description of Sa 1 (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. |
| Coated surfaces | Clean, dry and undamaged compatible coating | Clean, dry and undamaged compatible coating |

Optimum performance, including adhesion, corrosion protection, heat resistance and chemical resistance is achieved with recommended surface preparation.

# Application



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## 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. |
| Roller: | May be used for small areas. Not recommended for first primer coat. Care must be taken to achieve the specified dry film thickness. |

## Product mixing ratio (by volume)

| | |
|---|---|
| Penguard Pro 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): | 19-27 |
| Pressure at nozzle (minimum): | 150 bar/2100 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.

This product may be applied at substrate temperatures down to -5 °C depending on other influencing factors, including but not limited to thinning, ventilation etc. 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.

Dry to over coat, minimum: The recommended shortest time before the next coat can be applied.



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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 |

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: | epoxy, epoxy mastic, zinc epoxy, zinc silicate |
| Subsequent coat: | acrylic, epoxy, polyurethane, polysiloxane |

## Packaging (typical)

| | Volume (litres) | Size of containers (litres) |
|---|---|---|
| Penguard Pro 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

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 Comp A | 12 month(s) |



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| | |
|---|---|
| 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.

## 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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