

Technical Data Sheet

Penguard Primer NM

Product description

This is a two component, polyamide cured, high molecular weight epoxy coating. Designed as a primer for new construction. Can be used as primer as a part of a complete system in atmospheric and immersed environments. Suitable for properly prepared carbon steel, stainless steel, aluminium, concrete, galvanised steel, shop primed 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, refineries, power plants, bridges, buildings and mining equipment.

Approvals and certificates

When used as part of an approved scheme, this material has the following certification:

- Low Flame Spread in accordance with EU Directive for Marine Equipment. Approved in accordance with parts 5 and 2 of Annex 1 of IMO 2010 FTP Code, or Parts 5 and 2 of Annex 1 of IMO FTPC when in compliance with IMO 2010 FTP Code Ch. 8

Consult your Jotun representative for details.
Additional certificates and approvals may be available on request.

Colours

grey, red, black, offwhite* and other colours with limitations

*white colour contains zinc phosphate

Product data

Property	Test/Standard	Description
Solids by volume	ISO 3233	53 ± 2 %
Gloss level (60 °)	ISO 2813	matt (0-35)
Flash point	ISO 3679 Method 1	25 °C
Density	calculated	1.3 kg/l
VOC-EU	IED (2010/75/EU) calculated	420 g/l

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

Gloss description: According to Jotun Performance Coatings' definition.

Film thickness per coat

Dry film thickness	50	-	100	µm
Wet film thickness	95	-	190	µm
Theoretical spreading rate	10.5	-	5.3	m ² /l

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	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 and to remove all polish from the surface.	Abrasive blast cleaning to achieve a surface profile using approved nonmetallic 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 and to remove all polish from the surface.	Abrasive blast cleaning to achieve a surface profile using approved nonmetallic abrasive media which is suitable to achieve a sharp and angular surface profile.
Galvanised steel	The surface shall be clean, dry and appear with a rough and dull profile.	Light brush blasting using nonmetallic abrasive leaving a clean, rough and even pattern.
Shop primed steel	Clean, dry and undamaged shop primer.	Abrasive swept or alternatively blasted to Sa 2 (ISO 8501-1) of at least 70 % of the surface.
Coated surfaces	Clean, dry and undamaged compatible coating (ISO 12944-5 6.1)	Clean, dry and undamaged compatible coating (ISO 12944-5 6.1)
Concrete	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.

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

Application

Application methods

- Spray: Use air spray or airless spray.
- Brush: Recommended for stripe and small areas. Care must be taken to achieve the specified dry film thickness.

Product mixing ratio (by volume)

- Penguard Primer NM Comp. A 4 part(s)
 Penguard Primer NM Comp. B 1 part(s)

Thinner/Cleaning solvent

Jotun Thinner No. 17

Guiding data for airless spray

- Nozzle tip (inch/1000): 15–19
 Pressure at nozzle (minimum): 150 bar/2100 psi

Drying and Curing time

Substrate temperature	Standard Comp B		S Comp B	
	+10 °C	+23 °C	+10 °C	+23 °C
Surface (touch) dry	2 h	30 min	30 min	15 min
Walk-on-dry	10 h	4 h	4 h	1 h
Dried to over coat, minimum	10 h	3 h	6 h	2 h
Dried/cured for service	12 d	7 d	12 d	7 d

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

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	7 h
Pot life with S Comp B	3 h

Heat resistance

	Temperature	
	Continuous	Peak
Dry, atmospheric	120 °C	140 °C
Immersed, sea water	50 °C	60 °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

Subsequent coat: acrylic, epoxy, polyurethane, polysiloxane

Packaging (typical)

	Volume (litres)	Size of containers (litres)
Penguard Primer NM Comp. A	16	20
Penguard Primer NM Comp. B	4	4

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 (+23 °C)

Penguard Primer NM Comp A	24 month(s)
Penguard Primer NM 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

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.

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