

# Technical Data

## Penguard Primer



### Product description

Penguard Primer is a two-pack epoxy primer based on epoxy resin with high molecular weight. This product is a part of a complete system which is certified not to spread surface flames.

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### Recommended use

As a primer in a coating system for corrosion protection of steel and other substrates. Penguard Primer is also recommended for internal lining for friction reduction in gas transmitting pipelines as per API 5L2. Please contact Jotun for specific recommendations.

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### Film thickness and spreading rate

	Minimum	Maximum	Typical
Film thickness, dry ( $\mu\text{m}$ )	40	60	50
Film thickness, wet ( $\mu\text{m}$ )	80	120	100
Theoretical spreading rate ( $\text{m}^2/\text{l}$ )	12,8	8,5	10,2

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### Approvals

API 5L2 by Egyptian National Research Centre NRC.

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### Physical properties

Colour	Grey, Red
Solids (vol %)*	51 $\pm$ 2
Flash point	25°C $\pm$ 2 (Setaflash)
VOC	420 gms/ltr UK-PG6/23(97). Appendix 3
Gloss	Flat
Water resistance	Very good
Abrasion resistance	Very good
Solvent resistance	Excellent
Chemical resistance	Excellent
Flexibility	Good

\*Measured according to ISO 3233:1998 (E)

Hong Kong rules: Category of paints - Tank lining coatings; VOC 440 gms/ltr HK EPD method (Ready to use); Exempt compound - N/A; Specific gravity: 1.24 kg/ltr (A+B); Both VOC and Specific gravity values provided are typical values, subject to changes when different colour involved.

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## Surface preparation

All surfaces should be clean, dry and free from contamination. The surface should be assessed and treated in accordance with ISO 8504.

### Bare steel

Cleanliness: Blast cleaning to Sa 2½ (ISO 8501-1:2007). Roughness: using abrasives suitable to achieve grade Fine to Medium G (30-85 µm, Ry5) (ISO 8503-2)

### Shopprimed steel

Clean, dry and undamaged approved shopprimer.

### Coated surfaces

Clean, dry and undamaged compatible primer. Please contact your local Jotun office for more information.

### Other surfaces

For aluminium and galvanised surface; degreasing, light abrading or sweep blasting. For stainless steel; light abrading or sweep blasting using chloride free, non-metallic abrasive.

The coating may be used on other substrates. Please contact your local Jotun office for more information.

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## Condition during application

The temperature of the substrate should be minimum 10°C and at least 3°C above the dew point of the air, temperature and relative humidity measured in the vicinity of the substrate. Good ventilation is usually required in confined areas to ensure proper drying. The coating should not be exposed to oil, chemicals or mechanical stress until cured. If necessary, Penguard Stayer, Penguard Primer, Penguard HB, Penguard Special may be used down to 2°C, provided a special accelerator is added.

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## Application methods

<b>Spray</b>	Use airless spray
<b>Brush</b>	Recommended for stripe coating and small areas, care must be taken to achieve the specified dry film thickness.

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## Application data

<b>Mixing ratio (volume)</b>	4:1
<b>Mixing</b>	4 parts Penguard Primer Comp. A (base) to be mixed thoroughly with 1 part Penguard, Comp. B (curing agent).
<b>Induction time</b>	30 minutes.
<b>Pot life (23°C)</b>	8 hours. (Reduced at higher temp.)
<b>Thinner/Cleaner</b>	Jotun Thinner No. 17. Do not use thinner when applied in potable water tanks.
<b>Guiding data airless spray</b>	
<b>Pressure at nozzle</b>	15 MPa (150 kp/cm <sup>2</sup> , 2100 psi)
<b>Nozzle tip</b>	0.46 - 0.58 mm (0.018-0.023")
<b>Spray angle</b>	40 - 80°
<b>Filter</b>	Check to ensure that filters are clean.

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## Drying time

Drying times are generally related to air circulation, temperature, film thickness and number of coats, and will be affected correspondingly. The figures given in the table are typical with:

- \* Good ventilation (Outdoor exposure or free circulation of air)
- \* Typical film thickness
- \* One coat on top of inert substrate

Substrate temperature	10°C	23°C	40°C
Surface dry	2 h	1 h	0,5 h
Through dry	14 h	6,5 h	3 h
Cured	14 d	7 d	3 d
Dry to recoat, minimum <sup>1</sup>	8 h	4 h	3 h
Dry to recoat, maximum <sup>1</sup>			

1. Provided the surface is free from chalking and other contamination prior to application, there is normally no overcoating time limit. Best intercoat adhesion occurs, however, when the subsequent coat is applied before preceding coat has cured. If the coating has been exposed to direct sunlight for some time, special attention must be paid to surface cleaning and mattening/removal of the surface layer in order to obtain good adhesion.

The given data must be considered as guidelines only. The actual drying time/times before recoating may be shorter or longer, depending on film thickness, ventilation, humidity, underlying paint system, requirement for early handling and mechanical strength etc. A complete system can be described on a system sheet, where all parameters and special conditions could be included.

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## Typical paint system

Penguard Primer	1 x 50 µm	(Dry Film Thickness)
Penguard HB	1 x 100 µm	(Dry Film Thickness)
Penguard Topcoat	1 x 50 µm	(Dry Film Thickness)

Other systems may be specified, depending on area of use

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## Storage

The product must be stored in accordance with national regulations. Storage conditions are to keep the containers in a dry, cool, well ventilated space and away from source of heat and ignition. Containers must be kept tightly closed.

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## Handling

Handle with care. Stir well before use.

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## Packing size

20 litre unit: 16 litres Penguard Primer Comp. A (base) in a 20 litre container and 4 litres Penguard, Comp. B (curing agent) in a 5 litre container

5 litre unit: 4 litres Penguard Primer Comp. A (base) in a 5 litre container and 1 litre Penguard, Comp. B (curing agent) in a 1 litre container

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## Health and safety

Please observe the precautionary notices displayed on the container. Use under well ventilated conditions. Do not breathe or inhale 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.

**For detailed information on the health and safety hazards and precautions for use of this product, we refer to the Material Safety Data Sheet.**

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### DISCLAIMER

The information in this data sheet is given to the best of our knowledge based on laboratory testing and practical experience. However, as the product can be used under conditions beyond our control, we can only guarantee the quality of the product itself. We also reserve the right to change the given data without notice. Minor product variations may be implemented in order to comply with local requirements.

If there is any inconsistency in the text the English (UK) version will prevail.

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