

# Technical Data

## PENGUARD HB



### Product description

Penguard HB is a high build, two-pack poly amide epoxy coating 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 part of a system for steel and concrete structures above and below water. May be used in tanks for potable water. Suitable as a primer / intermediate coat on structural steel and other surfaces such as concrete and plaster walls prior to applying Penguard and Polyurethane topcoats. Also can be used on GRP (Polyester) Approved by Saudi Aramco under APCS 1A, 1B, 1C, 1D, 1E, 1F, 12. stock No. 09612364, 09612369, 09612375.

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### Film thickness and spreading rate

	Minimum	Maximum	Typical
Film thickness, dry ( $\mu\text{m}$ )	80	150	100
Film thickness, wet ( $\mu\text{m}$ )	150	280	185
Theoretical spreading rate ( $\text{m}^2/\text{l}$ )	6.75	3.60	5.4

If used in tanks for potable water, washing procedure must be adhered to.

### Physical properties

Colour	Grey, Red and White
Solids (vol %)*	54 $\pm$ 2
Specific Gravity	1.3 – 1.4 (after mixing)
Flash point	25°C $\pm$ 2 (Setaflash)
Gloss	Matt
Gloss retention	Fair
Water resistance	Very good
Abrasion resistance	Very good
Solvent resistance	Excellent
Chemical resistance	Excellent
Flexibility	Good

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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 8501-1:1988). Roughness: using abrasives suitable to achieve grade Fine to Medium G (30-85  $\mu\text{m}$ , Ry5) (ISO 8503-2)

#### Shopprimed steel

Clean, dry and undamaged approved blast-primer.

#### Coated surfaces

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

#### Other surfaces

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

## 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

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

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## Application data

Mixing ratio (volume) 4 parts Comp. A (base) to be mixed thoroughly with 1 part Comp. B (curing agent)  
Mixing ½ hour prior to use.  
Pot life (23°C) 8 hours. (Reduced at higher temp.)  
Thinner/Cleaner Jotun Thinner No. 17  
Guiding data airless spray  
Pressure at nozzle 15 MPa (150 kp/cm<sup>2</sup> 2100 psi)  
Nozzle tip 0.46 - 0.69 mm (0.018-0.027")  
Spray angle 40 - 80°  
Filter 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	35°C	45°C
Surface dry	5 h	2,5 h	1 h	1 h
Through dry	16 h	8 h	5 h	5 h
Cured	14 d	7 d	3 d	3 d
Dry to recoat, minimum	16 h	8 h	4 h	4 h

Dry to recoat, maximum

1. Provided the surface is free from chalking and other contamination prior to application, there is normally no overcoating time limit. 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.

Note: 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.

## Typical paint system

1) On bare steel or shopprimer:

Penguard HB	2 x 100 µm	(Dry Film Thickness)
Penguard Topcoat	1 x 50 µm	(Dry Film Thickness)
2)		
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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## SPECIAL WASHING PROCEDURE WHEN THIS PRODUCT IS USED IN TANKS FOR POTABLE WATER

Either

After the paint is cured (see drying/curing time above), the tank is filled with warm water (above 60 - 80°C), which shall remain in the tank for 24 hours. Then the tank is thoroughly washed, using water of min. 80°C together with brushes or washed with steam

or

After the paint is cured (see drying/curing time above), the tank shall be ventilated with warm air, min 23°C for 7 days. Then the tank is filled three times with warm water (min. 50°C), each filling shall remain in the tank for 24 hours. Finally, the tank is washed, using water of min. 50°C together with brushes or washed with steam

Other washing procedures may be acceptable, please contact your local Jotun representative for details.

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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 Comp. A (base) in a 20 litre container and 4 litres Comp. B (curing agent) in a 5 litre container

or

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

Packing may vary from country to country according to local requirements.

## 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.

### 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 is often used under conditions beyond our control, we cannot guarantee anything but the quality of the product itself. We reserve the right to change the given data without notice.*

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