

# Technical Data

## Penguard HSP



### Product description

Penguard HSP is a fast drying, high solids two-pack epoxy coating.

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### Recommended use

As an anti corrosive primer and/or intermediate coating for protection of steel and other substrates in urban and industrial atmospheres, coastal areas with low/moderate salinity and where fast dry-to-recoat and/or dry-to-handle times are desired. Lower film thickness may require thinning.

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### Film thickness and spreading rate

	Minimum	Maximum	Typical
Film thickness, dry ( $\mu\text{m}$ )	60	250	125
Film thickness, wet ( $\mu\text{m}$ )	85	340	170
Theoretical spreading rate ( $\text{m}^2/\text{l}$ )	12	3	5,8

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## Physical properties

<b>Colour</b>	Buff, Grey, Red, Grey XO
<b>Solids (vol %)*</b>	73 ± 2
<b>Flash point</b>	29°C ± 2 (Setaflash)
<b>VOC</b>	240 gms/ltr UK-PG6/23(97). Appendix 3
<b>Gloss</b>	Flat
<b>Gloss retention</b>	Fair
<b>Water resistance</b>	Very good
<b>Abrasion resistance</b>	Very good
<b>Solvent resistance</b>	Excellent
<b>Chemical resistance</b>	Excellent
<b>Flexibility</b>	Good

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

Note that primers used as the final coat may fade and chalk in time when exposed to sunlight and weathering effects. Colour may vary from batch to batch. If exact match to colour standards and long term cosmetic performance is needed please see our range of topcoats and finishes.

Hong Kong rules:

Category of paints - Other vessel coatings; VOC 254 gms/ltr HK EPD method (Ready to use); Exempt compound - N/A; Specific gravity: 1.59 (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)

### Shoppripped 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

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 0°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.

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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 Comp. A (base) to be mixed thoroughly with 1 part Penguard HSP, Comp. B (curing agent) for 10 min prior to use.
<b>Pot life (23°C)</b>	2 hours. (Reduced at higher temp.)
<b>Thinner/Cleaner</b>	Jotun Thinner No. 17
<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>	0.38 - 0.58 mm (0.015 - 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

<b>Substrate temperature</b>	<b>0°C</b>	<b>5°C</b>	<b>10°C</b>	<b>23°C</b>	<b>40°C</b>
<b>Surface dry</b>	11 h	5 h	2 h	1 h	0,5 h
<b>Through dry</b>	18 h	12 h	6 h	3 h	2 h
<b>Cured</b>	21 d	13 d	8 d	4 d	3 d
<b>Dry to recoat, minimum</b>	18 h	12 h	4 h	2 h	1 h
<b>Dry to recoat, maximum <sup>1</sup></b>					

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

### Mild atmospheric environments:

Penguard HSP 1 x 75 µm (Dry Film Thickness)

<b>Penguard HSP</b>	<b>1 x 75 µm</b>	<b>(Dry Film Thickness)</b>
Hardtop AS/Hardtop XP	1 x 60 µm	(Dry Film Thickness)
<b>Medium atmospheric environments:</b>		
Barrier 80	1 x 60 µm	(Dry Film Thickness)
<b>Penguard HSP</b>	<b>1 x 80 µm</b>	<b>(Dry Film Thickness)</b>
Hardtop AS/Hardtop XP	1 x 60 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 Comp. A (base) in a 20 litre container and 4 litres Penguard HSP, Comp. B (curing agent) in a 5 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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