

Technical Data

Penguard Express B11



Product description

This is a two component amine cured epoxy coating. It is a fast drying, zinc phosphate pigmented, high solids, high build product. It conforms to the requirements of BS5493:1977.

Ideal for new construction or maintenance where fast dry to handle and over coating times are required. Can be used as primer, mid coat, finish coat or as single coat system in atmospheric environments. Suitable for properly prepared carbon steel, aluminium, concrete and galvanised steel substrates. It can be applied at sub zero surface temperatures.

Recommended use

Approved to meet the requirements of UK Highway Agency Item 111 for use on bridges and highway infrastructure.

Film thickness and spreading rate

	Minimum	Maximum	Typical
Film thickness, dry (μm)	75	250	125
Film thickness, wet (μm)	107	357	179
Theoretical spreading rate (m^2/l)	9,3	2,8	5,6

Physical properties

Colour	Grey, Red
Solids (vol %)*	70 \pm 5
Flash point	32 °C \pm 2 (Setaflash)
VOC	2,3 lbs/gal (273 gms/ltr) USA-EPA Method 24
Gloss	Flat
Gloss retention	Fair
Water resistance	Very good
Abrasion resistance	Very good
Solvent resistance	Very good

*Measured according to ISO 3233:1998 (E)

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.

Condition during application

The temperature of the substrate should be minimum -5°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 required in confined areas to ensure proper drying. The coating should not be exposed to oil, chemicals or mechanical stress until cured.

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.

Application data

Mixing ratio (volume)	4:1
Mixing	4 parts Comp. A (base) to be mixed thoroughly with 1 part Penguard Express B11, Comp. B (curing agent) for 10 min prior to use.
Pot life (23°C)	2 hours (Reduced at higher temp.)
Thinner/Cleaner	Jotun Thinner No. 17
Guiding data airless spray	
Pressure at nozzle	15 MPa (150 kp/cm ² , 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.

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	-5°C	0°C	5°C	10°C	23°C
Surface dry	17 h	12 h	5 h	4 h	1,5 h
Through dry	39 h	25 h	11 h	6 h	3 h
Cured		21 d	13 d	8 d	4 d
Dry to recoat, minimum	24 h	14 h	8 h	4 h	2 h
Dry to recoat, maximum ¹					

Substrate temperature	40°C
Surface dry	0,5 h
Through dry	1,5 h
Cured	3 d
Dry to recoat, minimum	1 h
Dry to recoat, maximum ¹	

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.

Typical paint system

Penguard Express B11	1 x 125 µm	(Dry Film Thickness)
Penguard Express B12	1 x 125 µm	(Dry Film Thickness)
Hardtop XP	1 x 50 µm	(Dry Film Thickness)

Other systems may be specified, depending on area of use

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.

Handling

Handle with care. Stir well before use.

Packing size

20 litre unit: 16 litres Comp. A (base) in a 20 litre container and 4 litres Penguard Express B11, Comp. B (curing agent) in a 5 litre container

5 litre unit: 4 litres Comp. A (base) in a 5 litre container and 1 litre Penguard Express B11, Comp. B (curing agent) in a 1 litre container

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 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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