



**JOTUN**

***Penguard*** | EXPRESS

***CORROSION PROTECTION WITH  
SPEED, COLOUR AND EFFICIENCY***



# Penguard | EXPRESS

*Tailor corrosion protection to fit your needs!*



## SPEED

- Very fast dry-to-recoat
- Very fast dry-to-handle
- Fast drying in temperatures from -5°C to 40°C
- Full system completion within one day even at low temperatures



## COLOUR

- For areas where exact colour match and colour stability matter, Penguard Express CF offers the following benefits:
  - Jotun Multicolour Industry tinting system gives virtually unlimited colour choice
  - Less yellowing and darkening
  - Better performance in touch up and repair work at the new construction site



## EFFICIENCY

- Fast hardness development minimises damage when structures are moved and stacked
- Fast curing reduces the need for space for drying painted structures
- Low temperature cure extends production periods and also allows application in cold climates
- Extended production periods reduce heating costs, risk of errors and simplify application
- High volume solids reduces paint volume required



## **Penguard** | EXPRESS

Penguard Express is a fast drying, high solids 2-pack epoxy coating which may be applied in high film thickness and at lower temperatures. For use as an anti-corrosive primer or intermediate coat for the protection of steel and other substrates in atmospheric exposure. The fast dry-to-recoat and dry-to-handle times allow for increased throughput and efficiency during the paint application process. Available in variant compliant with the requirements for LEED 2009 (VOC content (GS11)), BREEAM and BREEAM-NOR (VOC content (EU Directive 2004/42/CE)).

## **Penguard** | EXPRESS ZP

Penguard Express ZP is pigmented with active zinc phosphate for increased corrosion protection and is the natural choice as a first coat for protection of metal structures exposed in highly corrosive environments. Available in variant compliant with the requirements for LEED 2009 (VOC content (GS11)), BREEAM and BREEAM-NOR (VOC content (EU Directive 2004/42/CE)).

## **Penguard** | EXPRESS MIO

Penguard Express MIO is reinforced with micaceous iron oxide pigments for increased barrier effect. This effect is provided by overlapping layers of the MIO pigments which prevent moisture penetrating through the paint film. It further provides increased hardness and improved adhesion of subsequent coats. Available in variant compliant with the requirements for LEED 2009 (VOC content (GS11)), BREEAM and BREEAM-NOR (VOC content (EU Directive 2004/42/CE)).

## **Penguard** | EXPRESS CF

Penguard Express CF, the most recent addition to the Penguard Express range, offers more colour stability and a wide range of colours through MCI. It offers all the benefits of Penguard Express and can be delivered in small batches.



# Penguard | EXPRESS

## *The ideal solution for all steel substrates*

### **Exposed Steel Structures**

Steel structures which are exposed to tough atmospheric environments, need a coating system that provides long term, durable protection.



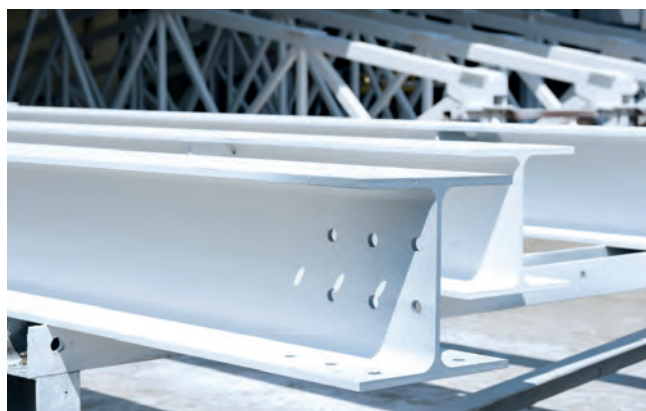
Typically the coating system can be based on a zinc rich primer, 1 or 2 coats of high build epoxy with a topcoat. Penguard Express will provide strong adhesion to both the zinc primer and the topcoat giving excellent protection.

By using Penguard Express it is possible to apply even a 3 coat system in one day. At 10°C this can be completed within 10 hours. In warmer climates where the steel substrate may reach 40°C, it can even be completed in less than 3 hours.

### **Structural Steelwork**

Structural steel for infrastructure projects is usually protected with one or two coats of an epoxy eventually with a topcoat.

Application of a 2 coat Penguard Express coating system can be completed within 8 hours at 10°C or within just 2 hours should the temperature reach 40°C.



### **Where colour and colour stability matter**

Penguard Express CF meets our customers' needs for a fast curing epoxy coating that is available in a wide range of colours.

Penguard Express CF meets the demands for a more colour stable epoxy coating combined with excellent anticorrosive properties.

Penguard Express CF can be used direct to steel and in one coat application.



# Product data

	Penguard Express	Penguard Express ZP	Penguard Express MIO	Penguard Express CF	
Dry film thickness $\mu\text{m}$ (min – max)	75 – 250	75 – 250	75 – 250	100 – 250	
Solids (vol%)	74 $\pm$ 2	74 $\pm$ 2	74 $\pm$ 2	77 $\pm$ 2	
VOC g/l (EPA Method 24)	260	260	260	231	
Pot life	2 hr	2 hr	2 hr	1 hr	
Colours	Grey, Grey XO, Red, Buff, Light Red	Grey, Red	Grey, Red	Wide choice with MCI tinting system	
Mixing ratio	4 parts Comp. A (base) 1 part Comp. B (curing agent)				
Pot life (23°C)	2 hours (reduced at higher temperature)			1 hour	
Drying times	Surface Dry		Dry to recoat (min)	Surface Dry	Dry to recoat (min)
	40°C	0.5 hr	1 hr	1 hr	1.5 hrs
	23°C	1 hr	2 hrs	2.5 hrs	3 hrs
	10°C	2 hrs	4 hrs	4.5 hrs	6 hrs
	0°C	11 hrs	14 hrs	16 hrs	24 hrs
	-5°C	16 hrs	24 hrs	–	–

## Typical systems

There are many factors influencing the choice of coatings for protection of a steel structure. Penguard range of products can be applied in a wide range of situations.

Any Penguard Express variant can be used in the system examples shown.

Used in combination with zinc rich primers, the service life of the coating system will be prolonged in higher corrosive areas.

In UV exposed areas and where long colour and gloss durability are required, a high performance topcoat should be used.

### ONE COAT APPLICATION FOR LOWER CORROSIVE AREAS

Product	Coats	DFT $\mu\text{m}$
Penguard Express	1	80*

### SYSTEMS FOR MEDIUM CORROSIVE AREAS

Product	Coats	DFT $\mu\text{m}$
Penguard Express	1	175

Product	Coats	DFT $\mu\text{m}$
Penguard Express	1	80*
Penguard Express	1	80*

### TWO OR THREE COAT SYSTEMS FOR HIGH AND VERY HIGH CORROSIVE AREAS

Product	Coats	DFT $\mu\text{m}$
Penguard Express	1	160
Penguard Express	1	160

Product	Coats	DFT $\mu\text{m}$
Barrier 80	1	60
Penguard Express	1	100
Penguard Express	1	100

\*Penguard Express CF: Min. 100  $\mu\text{m}$  DFT



# **Penguard** | EXPRESS

*Delivering speed, colour and efficiency to the production process*

Reduced recoating times and shorter dry-to-handle periods save time, lower costs and increase output

- Speeds up the production process and improves efficiency for applicators, contractors and steel fabricators
- Saves heating costs
- Reduces risk of errors and simplifies application by using same curing agent at low and high temperatures
- Easy to apply. Can also be applied by brush and roller
- Save coats and processing times by using any Penguard Express variant as single coat, primer or intermediate coat

Penguard Express CF provides wider choice of colours and better colour stability

- More colour stable than other fast curing epoxy primers especially in non-UV exposed areas
- Can be applied directly to metal or as part of a system
- Provides all the benefits of Penguard Express and can be delivered fast and in small batches anywhere
- Provides fast handling, simplifies logistics and improves performance in touch up and repair work at the new construction site



Jotun Protects Property

# A global provider of coatings



Jotun is one of the world's leading manufacturers of paints, coatings and powder coatings.

We have 68 companies in 43 countries and 33 production facilities in 20 countries on all continents, and are represented in more than 90 countries with our network of agents, branch offices, distributors and sales offices around the world.

Our operations cover development, production, marketing, R&D and sales of paints and coatings to protect and decorate surfaces in residential, shipping and industrial markets.

## UNIFORM STANDARD ACROSS THE GLOBE



- Easy to exchange trained technical personnel across national borders and multi-national projects.
- Compulsory training for all technical and sales personnel in marine and protective segments. Most of our coating advisors and technical personnel have FROSIO and/or NACE certification.
- Same competence in maintaining company standard procedures globally.

## Jotun GreenSteps

### FOR A MORE COLOURFUL WORLD, WE ALL NEED TO BE A LITTLE GREENER

Jotun recognises the responsibility it has to the environment and has established its own GreenSteps programme.

Through the GreenSteps programme we address market demand for more sustainable coatings solutions.

- Reducing VOC emissions
- Reducing hazardous materials
- Reducing energy consumption
- Reducing carbon footprint
- Reducing waste

# Jotun Marine Coatings and Jotun Protective Coatings offices worldwide

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