

Primax SE 91

PRODUCT DESCRIPTION

This powder coating is designed to be used as a primer coat on cast metal substrates based on aluminum alloys, to enhance their resistance to corrosion when exposed to severe climatic conditions, in particular sea-side and high snowy areas. It reduces blistering and other surface defects that occur during the powder curing process in most common types of aluminum-alloy castings, as they are exposed to high temperatures. It also provides outstanding edge coverage, very good flow and excellent inter-coat adhesion. This product is formulated to be over-coated with powder topcoats such as Corro-Coat PE, Jotun Facade (Corro-Coat PE-F) or Jotun Super Durable (Corro-Coat PE-SDF) providing excellent mechanical and chemical performance with superior flow and finish for outdoor applications.

Application areas

This product is recommended as a primer coat on cast aluminum-alloys such as die-casting, permanent mold casting and sand casting, to enhance their appearance and performance. Typical application areas are lighting fixtures and posts, fences, garden furniture, display panels and small electrical boxes.

POWDER PROPERTIES

Storage

Keep in a dry cool area. Maximum temperature 25 °C. Maximum relative humidity 60 %. Under these mentioned conditions, product shelf life is 12 months from date of manufacture.

APPLICATION

Pretreatment

The overall quality of the coating system is largely dependent on the type and quality of the pretreatment. In the case of aluminum sand or die castings, pre-treatment with acid and conversion coatings with chrome is recommended.

Prior to pre-treatment, it is not recommended to handle aluminum with the same vigor as iron when mechanically cleaned with abrasive blasting and sanding. Steel grit as a blasting medium on cast aluminum substrates should be avoided. The use of glass and plastic media are favored as they will only remove the surface imperfections. Preventive measures should be taken to avoid excessive exposure to abrasive media as it will promote porosity and further increase outgassing.

Powder application

Curing schedule	Object temperature	Time
Fast cure	200 °C	10 minutes
Standard cure	180 °C	15 minutes

It is recommended to partially cure Primax SE 91 before the application of the top coat (depending on the thickness of the castings, 8-10 minutes at 180 °C or 4-6 minutes at 200 °C object temperature are indications for such partial cure). The system is then cured following the primer or topcoat specifications; whichever is most stringent. Tests have shown that such cure schedules can give excellent results.

The inter-coat adhesion properties and the complete system cure must always be verified. The application of a top coat must take place no later than 24 hours after the application of Primax SE 91. The shortest possible interval is recommended.

APPEARANCE

Gloss	EN ISO 2813 (60°)	
	Primax SE 91LG	20 ± 10
	Primax SE 91SG	70 ± 10

If the significant surface is too small or unsuitable for the gloss to be measured with the glossmeter, the gloss should be compared visually with the reference sample (from the same viewing angle).

PERFORMANCE

The technical data provided below are typical for this product when applied as follows:

Substrate	Chromated aluminium panels
Substrate thickness (mm)	0.8
Film thickness (µm)	60-90

Typical values when tested.

Property	Standard	Result
Adhesion	EN ISO 2409 (2 mm)	Cross-cut rating Gt0 (100 % adhesion)
Impact resistance	ASTM D2794 (5/8 " ball)	> 60 inch-pounds without film cracking
Cupping test	EN ISO 1520	Passes 5 mm without film cracking
Flexibility	EN ISO 1519	Cylindrical Mandrel bend test, 5-12 mm without film cracking
Film hardness	EN ISO 2815	Indentation resistance according to Buchholz: >80
Salt spray resistance	ASTM B117	Excellent. Measured with respect to blistering and adhesion loss after 1000 hours exposure.
Resistance to humid atmospheres	DIN 50017	Excellent. Measured with respect to blistering and adhesion loss after 1000 hours exposure.
Test *	Standard	Result
Adhesion	EN ISO 2409 (2 mm)	Cross-cut rating Gt0 (100 % adhesion)
Salt spray resistance	ASTM B117	After 2000 hours - maximum 10 mm undercutting.
Resistance to humid atmospheres	DIN 50017	After 2000 hours - no blistering, cracking or flaking.

Tested on chromate treated die cast aluminum alloy top-coated with a smooth Corro-Coat PE and Corro-Coat PE-F. Total film thickness 160 µm (80 µm primer + 80 µm top coat).

Note: test results are provided as a performance indication and do not constitute specifications.

Disclaimer

The information in this document is given to the best of Jotun's knowledge, based on laboratory testing and practical experience. Jotun's products are considered as semi-finished goods and as such, products are often used under conditions beyond Jotun's control. Jotun cannot guarantee anything but the quality of the product itself. Minor product variations may be implemented in order to comply with local requirements. Jotun reserves the right to change the given data without further notice.

Users should always consult Jotun for specific guidance on the general suitability of this product for their needs and specific application practices.

If there is any inconsistency between different language issues of this document, the English (United Kingdom) version

Technical Data Sheet

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will prevail.