

Product Data Sheet

Primax SE 91

Product Description

Primax SE 91 is an epoxy-polyester especially formulated powder coating designed to be used as a primer coat on casting 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.

Primax SE 91 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. Primax SE 91 also provides outstanding edge coverage, very good flow and excellent inter-coat adhesion.

Primax SE 91 is formulated to be over-coated with powder top coats such as Corro-Coat PE, Corro-Coat PE-F or Corro-Coat PE-SDF *Super Durable* providing excellent mechanical and chemical performance with superior flow and finish for outdoor applications.

Application Areas

Primax SE 91 is recommended as a primer coat on cast aluminum-alloys such as die-casting, permanent mould 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.

Pre-treatment

The overall quality of the coating system is largely dependent on the type and quality of the pre-treatment. In case of aluminum sand or die-castings, cleaning 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 remove only the surface imperfections. Preventive measures should be taken to avoid excessive exposure to abrasive media as it will promote porosity and further increase outgassing.

Curing Schedules

10 minutes at 200°C object temperature
15 minutes at 180°C object temperature

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 top coat specifications; whichever is most stringent. Tests have shown that a top coat applied to fully cured Primax SE 91 can provide 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.

Colour Selection and Finish

Primax SE 91 is initially available in smooth grey color. Custom-designed colors can be made available upon request based on RAL and NCS color assortments.

Powder Application

Primax SE 91 is suitable for use in Corona, but can also be formulated for use in friction charging Tribo equipment.

Storage Conditions

Keep in a dry cool area. Maximum temperature 25°C. Maximum relative humidity 60%.



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Technical Properties

The technical data provided below are typical for Primax SE 91 applied to 0.8mm chromated aluminum panels (60-90 micron film thickness):

Description	Norm	Primax SE 91LG	Primax SE 91SG
Gloss	EN ISO 2813 (60°)	20 ± 10	70 ± 10
Adhesion	EN ISO 2409 (2mm)	Cross-cut rating Gt0 (100% adhesion).	
Impact resistance	ASTM D 2794 (5/8" ball)	60 inch-pounds without film cracking.	
Cupping test	EN ISO 1520	Passes 5mm without film cracking.	
Flexibility	EN ISO 1519	Cylindrical Mandrel bend test, 5-12mm without film cracking.	
Film hardness	EN ISO 2815	Indentation resistance according to Buchholz: > 80.	
Salt spray resistance	ASTM B 117	Excellent. Measured with respect to blistering and adhesion loss after 1,000 hours.	
Resistance to humid atmosphere	DIN 50017	Excellent. Measured with respect to blistering and adhesion loss after 1,000 hours.	

Test Results

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 microns (80 microns primer + 80 microns top coat).

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

Description	Norm	Primax SE 91LG	Primax SE 91SG
Gloss	EN ISO 2813 (60°)	20 ± 10	70 ± 10
Adhesion	EN ISO 2409 (2mm)	Cross-cut rating Gt0 (100% adhesion).	
Salt spray resistance	ASTM B 117	After 2,000 hours, maximum 10mm undercutting.	
Resistance to humid atmosphere	DIN 50017	After 2,000 hours, no blistering, cracking or flaking.	

Note: The information on this Product Data Sheet is given to the best of the manufacturer's knowledge, based on laboratory testing and practical experience. However, as the product is often used under conditions beyond the manufacturer's control, only the quality of the product itself can be guaranteed. Jotun Powder Coatings reserves the right without notice to alter or change the content of this Product Data Sheet.

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