



Powder Coatings

PRIMER PROTECTION D690
28LG1D69090



A **Zinc-FREE Primer** as part of the two coat system **RIPOL BARRIER** for corrosion protection of steel.

PRIMER PROTECTION D 690 SERIE 5 POLYESTER

PRIMER PROTECTION D 690 is a unique advanced **Zinc-FREE Epoxy-based Powder Coating Primer**. Applied as a 2 coat System in combination with RIPOL SERIE 5 Polyester topcoats, **PRIMER PROTECTION D 690** offers good anticorrosion performance when salt spray tested.

TZF

Totally Zinc Free

**More than 2000
hours Salt Spray
Test passed**

- **Very good outdoor exposure performance**
- **Excellent mechanical properties**
- **Very good intercoat-adhesion**
- **Good storage stability**
- **Excellent reclaiming in the spray booth**



PRIMER PROTECTION D 690 shows very good adhesive power and superior mechanical properties to ensure the integrity of the coating system enhancing the barrier protection between the metal, atmospheric moisture and environmental agents. Maximum efficiency of painted articles is obtained when combined with adequate metal pre-treatment like zinc phosphating and sand blasting. **For optimum performance PRIMER PROTECTION D 690** must only be applied as a **System** with **RIPOL SERIE 5** polyester topcoats and it is not recommended for use as a single finish.

RIPOL PRIMER PROTECTION D 690 is used in a wide range of applications

- Corrosion Protection of Structural Steelwork
- Fencing and fixtures
- Automotive chassis & Truck trailers
- Architectural Metalwork
- Agricultural machinery
- Industrial equipment



RIPOL SpA - Powder Coatings

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Metal Pretreatment

PRIMER PROTECTION D690 must be applied to a clean, dry, oxide-free, ferrous metal surface. Surface preparation depends upon the type of surface, its condition and the required performance.

For good protection against corrosion the following is recommended:

- Sand blasting to at least SA 2.5 according to ISO 8503-1 and ISO 8503-2
- Zinc Phosphate pretreatment is recommended for optimum performance – conversion coating weight shall be min $2.5 \pm 1,0$ g/m².

The **corrosion protection efficiency** of **PRIMER PROTECTION D690** depends on the surface, its preparation before coating and the topcoat applied. If there is penetrating damage to the coating system, there may be localised signs of corrosion where damage has occurred but this will not affect the adhesion of the film to the adjacent surface. **PRIMER PROTECTION D690** considerably limits the extent of spread of corrosion in the event of coating damage. To avoid any corrosion, the powder coating must be processed immediately after the blasting stage

Application

Suitable for both **corona electrostatic and Tribo guns**. Tribo application should be tested before commencing production. Recommended application conditions :

- Transport air pressure: 0.5 to 1.0 kg/cm
- Recommended voltage: 60 to 70 kV
- Recommended thickness: $70 \div 90$ μ m - some colours need higher thickness to ensure optimal coverage

Unused powder **can be reclaimed and recycled through the coating system**, but a minimum of 80% virgin powder should always be used. Nozzles must be cleaned regularly during continuous use. Nozzles with deflectors are preferable for easier application and cleaning. Parts coated with **PRIMER PROTECTION D690** should not be handled if possible. If handling is unavoidable, clean lint-free gloves must be worn.

Curing Conditions

If used as a two coat RIPOL BARRIER system, best intercoat-adhesion is achieved when pre-gelling the **PRIMER PROTECTION D690** for 5 min @ 180°C. **PRIMER PROTECTION D690** should ideally be overcoated within 4/5 hours of applying the primer. When pre-gelling and the subsequent cure are done in a direct gas fired oven the intercoat adhesion between the primer and the topcoat may suffer due to a variation in the gas supply.

	SYSTEM	PRIMER ALONE
Metal Pretreatment	(1)	(1)
PRIMER PROTECTION D690	5 min @ 180°C (2)	20 min @ 160°C - 15 min @ 170°C - 10 min @ 180°C
RIPOL SERIE 5/6 POLYESTER	20 min @ 180°C (3)	na

(1) sand-blasting /zinc phosphating - not recommended for use over aluminum and/or non ferrous substrates

(2) FINAL CROSSLINKING TAKES PLACE WITH POLYMERIZATION OF THE TOPCOAT

(3) depending on formulations



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MECHANICAL PROPERTIES	PRIMER ALONE	SYSTEM (*)
Film Thickness UNI EN ISO 2360:2004	80 ± 10 µ	160 ± 10 µ total system
Adhesion ISO 2409:1996 -2mm crosshatch	Gt0	Gt0
Erichsen Cupping ISO 1520:1995	≥ 8 mm	≥ 6 mm
Impact ASTM D2794-93	≥ 5 Nm	≥ 5 Nm
Flexibility ISO 6860:1996 Conical mandrel	pass 5 mm	pass 5 mm

(*) PRIMER PROTECTION D690 + RIPOL SERIE 58L ARCHITECTURAL POLYESTER

Anticorrosion Properties : SALT SPRAY TEST -ASTM B117-90

Surface: steel / 0,5 mm

Pretreatment: solvent degreasing + zinc phosphating

PRIMER: PRIMER PROTECTION D690 – 65 ± 5 µ - curing 5-10min@180°C

Topcoat: RIPOL SERIE 58L – 80 ± 5 µ - curing 20min@180°C

	1000 hr	2000 hr
Rust Scribe	≤ 1 mm	≤ 3 mm
Rust surface ISO 4628	0	0
Blister size scribe ISO 4628	1	1-2
Blister size surface ISO 4628	0	0
Adhesion surface ASTM D3359-02	Gt0	Gt0

Gt0 equivalent to 5B ASTM D3359

Laboratory Test conditions : The results shown below are given for guidance only and are based on tests which (unless otherwise indicated) have been carried out under laboratory conditions using a complete coating system. Actual product performance will depend upon the circumstances under which the product is used. - Rust thickness : 0= none X=slight XX=moderate XXX=severe

Blisters size- ISO 4628: 0= none , 1= just visible (10x magnification) 2= just visible (normal vision) 3=clearly visible, 4= 0,5 to 5 mm , 5= ≥ 5 mm

Adhesion surface ASTM D3359-02 (% of removed area): 5B = 0% 4B = ≤ 5% 3B = 5;15% 2B = 15;35%, 1B = 35;65% 0B = ≥ 65%

Finish - Colours

Medium grey colour in semigloss smooth aspect

Theoretical Coverage

11.20 m²/kg @ specific weight 1,27 kg/dm³ ± 10 , and film thickness 70 µ .

Storage Stability

12 months @ no more than 30°C when stored in sealed original packagings and in dry conditions.

Product Code & Standard Packaging

PRIMER PROTECTION 28LG1D69090

25 kg carton box.

Notes

Any post mechanical processing of already coated parts, such as sawing, drilling, milling, cutting and bending will result in damage of the coated surface and will subsequently weaken the corrosion protection. Post-bending properties of coated parts must be verified prior to application. Minor cracks in the coated surface may lead to corrosion. Prior to coating a suitability test at the applicator is therefore highly recommended. Read Technical Data Sheet (TDS) and the Material Safety Datasheet (MSDS) before using. As a part of our product information program our Product/Technical data sheets are periodically updated. Therefore, please contact our International Sales Dept. for the latest edition. Our verbal and written recommendations for the use of our products are based upon experience and in accordance with present technological standards. These are given in order to support the buyer or user. They are non-committal and do not create any additional commitments to the purchase agreement. They do not release the buyer from verifying the suitability of our products for the intended application.

This Product data sheet substitutes any and all previous product data sheet and notes for customers published on this subject matter.



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