



## POLITHERM 24 W-ZN R SM GRAY RICH ZINC 18260 SM

**PRODUCT:** 10005667

**PRODUCT DESCRIPTION:** Anticorrosive epoxy powder coating suitable for metallic parts.

**USES:** It is intended for the coating of metal parts for situations where it is not possible to practice conventional phosphating and good corrosion protection is required.

It can be used for single application as one coat finish or as basecoat for epoxy, hybrid or polyester topcoat. In the monolayer system it is natural color change because of substances formed by the protective action of the film over time.

Due the high content of zinc, this coating is not recommended to cover surfaces exposed to highly acid or alkaline environments.

**APPLICATION PROCESS:** It is strongly recommended the careful reading of the recommendations below to obtain the ideal performance of the product.

**Surface:** In general all kind of metal that supports the necessary temperatures of pre-heating and cure can be coated. Sharp edges substantially reduce the applied layer, so a good finish of the pieces is recommended.

**Pretreatment:** For the best performance, the surface must be degreased with solvent and then shot blasted (Sa 2½). The coating can also be applied on surfaces that cannot be shot blasted. In this case, it is necessary to ensure a full multistage phosphatization.

**Application:** By conventional electrostatic gun. The product is not suitable for application by tribo-electric system. It should be applied in layers ranging from 50 to 70µm, however different layers can be necessary to ensure the surface profile ranging from 1/3 to 1/4 of the of the rich zinc coating thickness. During the use, it is recommended to use a maximum of 20% recovered powder and to clean the nozzles every 30 minutes.

**Cure:** The cure cycle must be carried through convection oven with uniform heat distribution. Infrared heaters can be also used as part of the cure equipment.  
**Note:** All temperatures indicated in the stoving schedules refer to object temperature.

**1. Single layer system:** When the coating is applied as one coat finish, the cure schedule must be 10 minutes at 200°C to ensure complete cure.

**2. Double layer system: (primer+top coat)** To obtain the appropriate adhesion among layers it's recommended the partial cure of the rich zinc (5 minutes at 200°C). The partial cure can be made in different stoving schedules but never below 130°C or above 220°C. Divergent values compromise the adhesion of the topcoat. The use of the rich zinc is not recommended in pieces composed by parts of different thickness. Necessary time/ temperature to get the partial-cure of the parts with larger metallic mass leads to the overbaking of the finest parts causing adhesion problems. Handling of the parts must be avoided prior the application of the topcoat. If this procedure is necessary should be done with gloves free of released fibers. The application of the finish must be done before 12 hours after the half-cure of the primer. The ideal period of application is within 4 hours after the application of the primer. For applications after 4 hours the pieces must be heated for 10 minutes at 120 - 150°C, followed by cooling. To obtain the best system performance the overcoat should be cured according to the specifications of its own technical bulletin.

**Repairs in the coating film:** Any damage on the surface of the system primer + topcoat must be corrected as soon as possible. To repair, the damaged area must be degreased with solvent and sandpapered until the substrate and cleaned again.  
After these procedure a two-component liquid rich zinc epoxy primer should be applied followed by the liquid finish with similar performance of the powder topcoat.

**CHARACTERISTICS OF THE PRODUCT:**

**System of resins:** Epoxy  
**Appearance:** grey powder (not available in other colors)  
**Specific weight:** 3,50 ± 0,10 g/cm<sup>3</sup>  
**Storage stability:** 12 months (max. 30°C)  
**Observations:** Free of heavy metals and other substances provided for in Directive 2015/863 EU of 03/31/2015 (RoHS).

**CHARACTERISTICS OF THE APPLIED PRODUCT:**

The tests were carried out in the following conditions:  
 Thickness: 50 - 70 μ m  
 Cure conditions: 10 minutes to 200°C  
 Data of mechanical tests report values for powder applied over common degreased steel panels. Chemical resistance tests were carried out using panels of shot blasted steel (Sa 2½) covered by the complete system (primer + polyester topcoat). In both cases, the application and cure conditions of each coating were used.

**MECHANICAL TESTS:**

TEST	METHOD	SPECIFICATION
ADHESION	ASTM D 3359	: GR 0
ASPECT	---	: Semi-matte showing small granular aspect
ERICHSEN CUPPING	DIN 53 156	: Minimum 4,0 mm
IMPACT (reverse)	ASTM D 2794	: Minimum 40 Kg.cm
FLEXIBILITY(conical mandrel)	ASTM D 1737	:Maximum 5mm

**CHEMICAL RESISTANCE:**

TEST	METHOD	SPECIFICATION
SALT SPRAY	ASTM B117-03	: Minimum 4000 h
HUMIDITY	ASTM D 1735	: Minimum 4000 h

**NOTES:**

- In the primer + topcoat system, the higher layer thickness naturally produces a less flexible film. This is observed by the presence of cracks when the coating is subjected to an impact or folding test. This fact, however, does not characterize loss of coating performance.
- In tests conducted in the laboratory, good results of resistance to Salt Spray were obtained in up to 4000 hours of exposure, with the beginning of red corrosion in the cut, but without propagation. In the field, the efficiency of protection will depend on the care taken in the application of the system. In areas of the part where the substrate is exposed due to cuts or other damage, red corrosion may develop that will not extend to the rest of the part.

**HANDLING PRECAUTION:**

See orientations in the Material Safety Data Sheet.

**NOTE:**

- Its not intended that all information contained in this bulletin are complete, and the user does so at his own risk in case of use the product in different purpose that specifically recommended in this bulletin, without first obtaining written confirmation from WEG as to the suitability of the product for the intended purpose
- While we endeavor to ensure that all advice we give about the product is correct we have no control over either the quality or condition of the substrate or the many factors affecting the use and application of the product.
- Therefore, unless we specifically agree in writing to do so, we do not accept any liability whatsoever or howsoever arising for the performance of the product.
- The information contained in this bulletin is liable to modification from time to time in the light of experience and our policy of continuous product development.