Technical Data Sheet

Alesta® ZeroZinc Reactive Antigassing prime
ZF80027199920

Product description:

Alesta® ZeroZinc Reactive Antigassing prime is a Zinc-free anticorrosion powder primer, based on a High Density Crosslinking epoxy system that enhances the barrier effect and provides excellent flexibility and adhesion properties as well as resistance to chemicals and humidity.
Primer **ZF80027199920** has a specific curing kinetic that makes the film closed in a short time and helps to decrease bubble defects on degassing substrates under certain conditions of use.
Together with an appropriate surface treatment and Alesta® polyester as a topcoat (Alesta® IP, AP, SD), **Alesta® ZeroZinc Reactive Antigassing prime** makes up a whole system that isolates the substrate from its environment in order to provide an excellent corrosion protection even under the most severe conditions (C5-I & C5-M) according to the ISO 12944 standard..

Product:

ALESTA ZF80027199920 Gloss
Packaging : 20 kg in plastic bag and cardboard box

Approvals:

This powder coating complies with the European Directives « Restriction of the use of certain hazardous substances » 2002/95/EC and 2011/65/EU (RoHS).

Colour:

Light Grey ± Ral 7032

Substrates:

Porous substrates: hot dip galvanized steel, zinc metal spray, cast iron…and recommended for heavy materials

Alesta® ZeroZinc Reactive Antigassing can also be used on non-porous ferrous substrates.

Substrates preparation:

Both chemical and mechanical (inert grit, such as stainless steel…) pretreatments are compatible with **Alesta® ZeroZinc Reactive Antigassing** .
Surface pretreatment has to be defined depending on type of substrate and required performance.
A degassing stage prior to the primer application, at a temperature 20°C higher than the curing schedule of the topcoat, might be required depending on the porosity of the part to be treated.

Physical properties:

Specific gravity: 1.56 +/- 0.05
Répartition granulométrique – Médian: 34 – 42 microns
Fluidity: 120 – 160

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The following performances have been obtained under the conditions described below and in laboratory. Actual product properties such as gloss, colour and finish may vary according to conditions of application.

Product Performance / Film Properties			
CONDITIONS			
Steel panels	**0.8 mm**		
Surface pretreatment	**Iron phosphate & passivation**		
Film thickness	**70 +/- 10 µ**		
Curing conditions	**07' @ 140°C (object temperature) for mechanical properties**		
TESTS	**SPECIFICATIONS**		
	N°	**DATES**	
Gloss @ 60°	EN ISO 2813	1999	80 +/- 10
Adhesion	EN ISO 2409	2007	Class 0
Erichsen	EN ISO 1520	2006	≥ 8 mm
Cylindrical flexibility	EN ISO 1519	2002	≤ 3 mm
Direct Impact resistance(*)	EN ISO 6272	2004	≥ 1kg / 50 cm

(*) ***For a 2-layers system:*** *primer 60µm + Alesta® AP Gloss 70µm*

Anticorrosion performances (*Tables given as an indication*)

- Substrate: **Hot Dip Galvanized Steel (Zn 70µm mini)**
  Galvanization must comply with ISO1461 and NF A 35-503
  - Film thickness**: Alesta® ZF80027199920 60/80µ & Alesta® AP 60/80µ**
  - Estimated durability according to the corrosive categories of the standard **ISO12944**

	C2	C3	C4	C5-I	C5-M
Cleaning/Stripping + phosphating + passivation				*	*

** please contact us*

- Substrate: **Zinc metal spray**
  Zinc metal spray must comply with ISO2063
  - Film thickness: **Alesta® ZF80027199920 60/80µ & Alesta® AP 60/80µ**
  - Estimated durability according to the corrosive categories of the standard **ISO12944**

	C2	C3	C4	C5-I	C5-M
Thermal spraying 60µm mini				*	*

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High durability

Protection and expected performances will vary according to the design of the part to be painted, the zinc layer thickness, the quality of the surface pretreatment, and the thickness and implementation of the coatings system, as well as the maintenance program of the coated surfaces.

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Anticorrosion performance (Table given as an example – please refer to PIB document)
- Substrate: cold rolled steel 20/10

- **Film thickness: ZF80027199920: 60-80µm & Alesta® AP Ral 9010: 60-80µm**
- **Estimated durability according to the corrosive categories of the ISO12944 standard**

	C2	C3	C4	C5-I	C5-M
Iron phosphating + passivation					
Grit blasting or sand blasting Sa $2^{1/2}$ minimum / Rz= 50/80µm – Ra = 7/12					
Zinc phosphating + passivation				*	*

*** please contact us**

High durability Low durability

Protection and expected performance will vary according to the design of the part to be painted, the quality of the surface pretreatment and implementation and thickness of the coating system, as well as the maintenance programme of the coated surfaces.

Baking window:

Alesta® ZeroZinc Low Bake Antigassing can be cured using a variety of methods, e.g. IR, convection, combi ovens.

- A full cure of the primer at a temperature close or slightly above the curing temperature of the topcoat improves the antigassing properties
- Topcoat cured at the lowest possible temperature helps to reduce bubble defects.
- In direct gas ovens, combustion by-products may cause significant colour changes.

Object temperature :

- **Partial cure :**
  02 min @ 140°C object temperature (only for non-degassing substrates)
- **Full cure :**
  07 min @ 140°C object temperature (only for non-degassing substrates)
  07 min @ 170°C object temperature, to be as close as possible to the curing temperature of the topcoat and prevent extra degassing when topcoat is cured

This is an object temperature curing window and sufficient time for heat-up must be added. This time will depend on metal thickness as well as the temperature setting and airflow in the oven.

In all other conditions (especially with a direct fired gas oven), it is advisable to test to confirm suitability.

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Industrial application:

- Substrate must be correctly prepared and dried before using ZF80027199920 and surface should be free of all contamination such as rust, oxide scale, oil and grease, old paints…
- **Alesta® ZeroZinc Reactive Antigassing** is easily applicable, with high transfer efficiency.
- Spraying settings will depend upon the geometry of the object being coated as well as the required film thickness. It is the responsibility of the applicator to make the appropriate adjustments*. Optimum coating performance will be obtained with a thickness of 60 – 100 µm.

  * *please refer to the document "Best Practice for use of ZEROZINC 2-layers system"*
- Spraying can be done using either manual or automatic electrostatic Corona guns as well as with tribostatic equipment.
- **Alesta® ZeroZinc Reactive Antigassing** is overcoatable with specified Alesta® topcoats without sanding or any other preparation* (within 12 heures).

  * *cleaning is necessary if primer surface becomes contaminated (dust, oil…)*

  In any case it is advisable to check adhesion before use
- Recycling of the powder: possible up to 30%.
- Do not mix this product with other powders.

Comments:

Certain chemicals or domestic cleaning products can cause damage to the appearance of the coating. Please test a small inconspicuous area first to confirm suitability.

Storage stability:

12 months @ 35°C
Shelf life applies to materials stored in sealed plastic bags under dry and cool conditions i.e. temperatures below 35°C.

Safety:

Consult the Safety Data Sheet prior to use.

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