

Alesta® ZeroZinc

Anticorrosive Primer ZF ZeroZinc

ZF40027355821 UNIPRIME ± RAL 7032

Alesta® ZeroZinc UNIPRIME is a Zinc-free anticorrosion powder primer, based on a High Density Crosslinking system that enhances the barrier effect and provides excellent flexibility and adhesion properties. The product is based on very high performance epoxy resin and has excellent resistance to chemicals and humidity. Alesta® ZeroZinc UNIPRIME has specific curing kinetics that help to reduce bubble defects on substrates that might generate degassing. Together with an appropriate surface treatment and an Alesta® polyester as a topcoat (Alesta® IP, AP, SD), Alesta® ZeroZinc UNIPRIME 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) according to the ISO 12944 standard.



Characteristics

- Semi Matt Smooth
- Solid
- Tribo/Corona
- Antigassing

Usage Area

- Corrosion protection
- Gas or liquid tanks, pipelines, structural steelwork, trucks, trailers & car parts, urban furniture...



Approvals

Qualisteelcoat Approved



International Quality Label for Coated Steel

- This powder coating complies with the European Directives "Restriction of the use of certain hazardous substances" 2011/65/EU and 2015/863/EU (RoHS)

The following data has been obtained under laboratory conditions as described below. Actual product properties such as gloss, colour and finish may vary depending on application conditions.



Test Conditions

- Curing Conditions (object temperature) 10 min @ 170°C
- Substrate 0,8 mm Iron phosphated & passivated steel panels
- Film thickness 70 ± 10 µm
- EN ISO 2360

Physical Data

- Density 1,58 g/cm³
- calculated



Product Performance / Film Properties

Gloss @ 60° EN ISO 2813	35 ± 10
Adhesion EN ISO 2409	GT0
Impact Resistance EN ISO 6272	1 kg / 50 cm
Impact Resistance EN ISO 6272	1 kg / 50 cm For a 2-layer system: Primer 60 µm + Alesta® AP Gloss 70 µm

Anticorrosion performance (Tables given as an indication - please refer to the PIB document)

Substrate: Hot dip galvanized steel (Zn 70 µm minimum)
Galvanization must comply with the standards ISO 1461 and NF A 35-503

- Film thickness ZF40027355821: 60-80 µm & Alesta® AP: 60-80 µm
- Estimated durability according to the corrosive categories of the standard ISO 12944

	C2	C3	C4	C5
Cleaning/Stripping + phosphating + passivation				

 High durability

Substrate: Metallization
Metallization must comply with ISO 2063

- Film thickness ZF40027355821: 60-80 µm & Alesta® AP: 60-80 µm
- Estimated durability according to the corrosive categories of the standard ISO 12944

	C2	C3	C4	C5
Metallization 60 µm minimum				

 High durability

Substrate: Cold rolled steel 20/10

- Film thickness ZF40027355821: 60-80 µm & Alesta® AP: 60-80 µm
- Estimated durability according to the corrosive categories of the standard ISO 12944

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

* please contact us

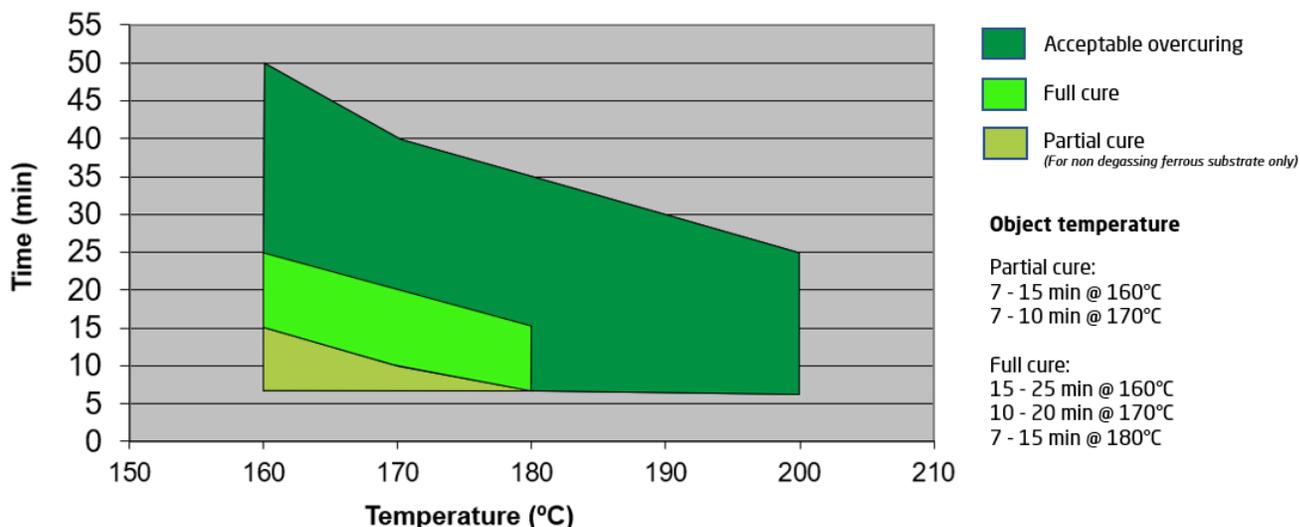
 High durability  Low durability

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



Curing Conditions (object temperature)

- Can be cured using a variety of methods, e.g. IR, convection, combi ovens. In direct gas ovens, combustion by-products may cause significant colour changes (for specific advice, please contact us).
- 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.
- Product is formulated for optimum intercoat adhesion under industrial curing conditions, particularly within the specified boundaries* as defined in the curing schedule below.
- In order to validate the process, we recommend carrying out a test prior to full production.



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

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.



Storage Stability

12 months/35°C

Shelf life applies to materials stored in sealed plastic bags under dry and cool conditions.



Substrate Preparation

- Both chemical and mechanical surface pretreatments are compatible with Alesta® ZeroZinc UNIPRIME.
- Surface pretreatment has to be defined depending on type of substrate and required performance.
- Substrate must be correctly prepared and dried before using ZF40027355821 and surface should be free of all contamination such as rust, oxide scale, oil and grease, old paints etc.
- A degassing stage prior to the primer application, at a temperature of 20° higher than the curing schedule of the topcoat, might be required depending on the porosity of the part to be treated.

Application



- Do not mix this product with other powder coatings.
- Can be applied with manual or automatic guns.
- Alesta® ZeroZinc UNIPRIME 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-layer systems"
- Alesta® ZeroZinc UNIPRIME is easily overcoatable with specified Alesta® topcoats or liquid paints without sanding or any other preparation* (within 12 hours).
*Cleaning is necessary if primer surface becomes contaminated (dust, oil etc.)
- All other conditions must be checked before use with an adhesion test.
- Recycling of the powder: possible up to 30 %.

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.
- In instances where the coating will be subjected to additional processes (such as printing, labelling, overcoating, postforming, gluing, application of sealant or any other post-treatment), adequate testing should be performed to confirm suitability. Prototypes should be prepared under conditions that are representative of the final production process.
- Please contact us for specific questions.
- Coated parts should be packed after they are fully cooled using suitable materials that are free of plasticizers. Packaged parts should be stored under cover to avoid the formation of condensation (for example under plastic wrapping film) which could result in permanent marks on the surface of the coating.

Safety



Consult the Safety Data Sheet prior to use

The information provided herein corresponds to our knowledge on the subject at the date of its publication. This information may be subject to revision as new knowledge and experience becomes available. The data provided fall within the normal range of product properties and relate only to the specific material designated; these data may not be valid for such material used in combination with any other materials or additives or in any process, unless expressly indicated otherwise. The data provided should not be used to establish specification limits or used alone as the basis of design; they are not intended to substitute for any testing you may need to conduct to determine for yourself the suitability of a specific material for your particular purposes. Since Axalta cannot anticipate all variations in actual end-use conditions Axalta makes no warranties and assumes no liability in connection with any of this information. Nothing in this publication is to be considered as a license to operate under or a recommendation to infringe any patent rights.

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