

Alesta® ZeroZinc primers

Environmentally friendly best-in-class
corrosion protection



Alesta[®]

ZeroZinc primers

An appropriate solution for every application

Corrosion of steel leads to high repair and maintenance costs. Surface pre-treatment and the use of the most appropriate anticorrosion system on the substrate to be coated will extend the life of the painted structure.

After more than 10 years of research and development (and more than 20 years of expertise in the field of anticorrosion), the Alesta[®] ZeroZinc range of products is expanding to provide the best solution for every substrate to be coated.

Alesta®

ZeroZinc primers

Advantages

- Excellent anticorrosion properties
 - Excellent resistance to chemicals and humidity, thanks to the strengthening barrier effect
 - Corrosion protection until C5 according to ISO 12944-6 standard
- Excellent mechanical properties
- A ZeroZinc primer for each substrate to be coated: steel, parts with sharp edges, degassing substrates (galvanised steel, metallisation etc.)
- These primers have a low density:
 - Easy to use (application recycling)
 - Improve productivity per m² (optimised powder consumption)
 - Reduced wear of coating equipment (Venturi, electrode, etc.)
- Excellent intercoat adhesion with Alesta® topcoats (without sanding)
- Excellent adhesion to ferrous metals
- Primed parts can be stored while they are waiting to be coated with topcoat.
Take precautions regarding storage and handling

Environmentally friendly anticorrosion protection

Alesta® ZeroZinc primers:

- Are zinc-free
- Are not labelled
- Are easy to transport
- Don't release VOCs
- Improve the durability of the coated element

Alesta® ZeroZinc offering

	Product Code	Support	Colour	Gloss (GU-Gloss units)	Complete Curing Conditions
Alesta® ZeroZinc Steel Prime	ZF90017192420	Ferrous metals	± RAL 7032	90 ± 10	10' @ 140 °C *
Alesta® ZeroZinc Antigassing Prime	ZF80027273020	Degassing substrate (galvanised steel, metal etc.)	± RAL 7036	85 ± 5	15' @ 180 °C
Alesta® ZeroZinc Edge Prime	ZF00017121720	Pieces with sharp edges (aluminium/steel)	± RAL 7032	3 ± 2	12' @ 180 °C *

* Partial cure improves adhesion with the topcoat.
For more information, see the product's technical data sheets.

Alesta® ZeroZinc Steel Prime

for ferrous metals

Alesta® ZeroZinc Antigassing Prime

for degassing substrate, galvanised steel and metallisation

Alesta® ZeroZinc Edge Prime

for parts with sharp edges,
thanks to its exceptional viscosity



These three Alesta® ZeroZinc anticorrosion primers are formulated using High Density Crosslinking (HDC) technology. It strengthens the barrier effect of the primer, creating a completely sealed coating that isolates the substrate from its environment.



These Alesta® ZeroZinc primers:

- Have excellent adhesion properties with the substrate and the topcoat
- Belong to the second generation of epoxy primers made to bring high anticorrosion resistance to buildings exposed to the most severe environmental conditions, climate, sun, humidity etc.
- Are formulated and tested according to the corrosion and durability classes defined in the ISO 12944-6 standard
- Are dedicated to the architectural market (metallic structure, urban furniture, ironwork etc.), transportation (bodies, equipment etc.), industrial machinery, agricultural equipment, and those looking for the best-in-class anticorrosion protection and all the known benefits of a powder coating: absence of VOCs, ease of application, good flow and reactivity etc.

Alesta® ZeroZinc primers Focusing on products

Alesta® ZeroZinc Steel Prime “ferrous metal” substrates

1. Select the surface preparation and the system based on the table below.

	Primer	Finish
Iron or zinc phosphating ⁽¹⁾	-	Alesta® IP, AP, SD
Iron or zinc phosphating ⁽¹⁾ + passivation	-	Alesta® IP, AP, SD
Iron or zinc phosphating ⁽¹⁾ + passivation	ZF90017192420	Alesta® IP, AP, SD
Blasting or sanding ^{(3) (4)} Sa 2 ^{1/2} mini / Rz = 50/80 µm - Ra = 7/12 ⁽²⁾	ZF90017192420	Alesta® IP, AP, SD
Zinc phosphating ⁽¹⁾ + passivation	ZF90017192420	Alesta® IP, AP, SD
Case-by-case study - consult us		

2. Assess the durability of the selected system according to the environmental corrosivity.

Environment	Steel		
C5-M	*		
C5-I	*		
C4			
C3			
C2			
C1			
* Contact us	5	10	15
	Durability (years) ^{A1}		

⁽¹⁾ Or alternative processing with equivalent performances.

⁽²⁾ Sa is the cleanliness and Ra/Rz is the roughness profile of the support after blasting or sanding.

⁽³⁾ The nature of the media will be selected according to the technology and roughness profile.

⁽⁴⁾ The shape of the media will be checked regularly to maintain sustainable performance.



Alesta® ZeroZinc Antigassing Prime for degassing substrate

Galvanised steel

The galvanisation must comply with the NF A 35-503 and NF EN ISO 1460 standards.

1. Select the surface preparation and the system based on the table below.

	Primer	Finish
Degreasing/pickling or light shot-blasting ⁽¹⁾	-	Alesta® IP, AP, SD
Phosphating ⁽²⁾	-	Alesta® IP, AP, SD
Phosphating ⁽²⁾ + passivation or chromating	-	Alesta® IP, AP, SD
Phosphating ⁽²⁾ + passivation or chromating	ZF80027273020	Alesta® IP, AP, SD
Case-by-case study - consult us		

⁽¹⁾ Inert substrate toward zinc (stainless steel, corundum).

⁽²⁾ Or alternative processing with equivalent performances.

2. Assess the durability of the selected system according to the environmental corrosivity.

Environment	Hot galvanisation		
C5-M			
C5-I			
C4			
C3			
C2			
C1			
	5	10	15
	Durability (years) ^{A1}		

Metal spray

The metallisation thickness must comply with the ISO 2062 standard.

1. Select the surface preparation and the system based on the table below.

	Primer	Finish
50 µm zinc or zinc-aluminium	-	Alesta® IP, AP, SD
100 µm zinc or zinc-aluminium	-	Alesta® IP, AP, SD
100 µm zinc or zinc-aluminium	ZF80027273020	Alesta® IP, AP, SD
Case-by-case study - consult us		

2. Assess the durability of the selected system according to the environmental corrosivity.

Environment	Metallisation		
C5-M			
C5-I			
C4			
C3			
C2			
C1			
	5	10	15
	Durability (years) ^{A1}		



Alesta® ZeroZinc Edge Prime

Sharp edges

Design of the part to be painted according to the recommendations of the ISO 12944-3 standard concerning sharp edges will improve the efficiency of the primer.

1. Select the surface preparation and the system based on the table below.

	Primer	Finish
Iron or zinc phosphating ⁽¹⁾	-	Alesta® IP, AP, SD
Iron or zinc phosphating ⁽¹⁾ + passivation	-	Alesta® IP, AP, SD
Iron or zinc phosphating ⁽¹⁾ + passivation	ZF00017121720	Alesta® IP, AP, SD
Shot-blasting or gritting angle substrate ^{(3) (4)} Sa 2 ^{1/2} mini / Rz = 50/80 µm - Ra = 7/12 ⁽²⁾	ZF00017121720	Alesta® IP, AP, SD
Zinc phosphating ⁽¹⁾ + passivation	ZF00017121720	Alesta® IP, AP, SD

Case-by-case study - consult us

2. Assess the durability of the selected system according to the environmental corrosivity.

Environment	Steel		
C5-M	*		
C5-I	*		
C4			
C3			
C2			
C1			
* Contact us	5	10	15
	Durability (years) ^{A1}		

⁽¹⁾ Or alternative processing with equivalent performances.

⁽²⁾ Sa is the cleanliness and Ra/Rz is the roughness profile of the support after shot-blasting or gritting.

⁽³⁾ The nature of the substrate will be selected according to the mode and roughness profile.

⁽⁴⁾ The substrate shape will be checked regularly to maintain sustainable performance.

Aluminium

1. Select the surface preparation and the system based on the table below.

		Primer	Finish
	Phosphating ⁽¹⁾	-	Alesta® IP, AP, SD
	Phosphating ⁽¹⁾	-	Alesta® IP, AP, SD
	Yellow or green chromating ⁽¹⁾	ZF00017121720	Alesta® IP, AP, SD
	Yellow or green chromating ⁽¹⁾	ZF00017121720	Alesta® IP, AP, SD
	Yellow chromating ⁽¹⁾	ZF00017121720	Alesta® IP, AP, SD
	Case-by-case study - consult us		

⁽¹⁾ Or alternative processing with equivalent performances.

2. Assess the durability of the selected system according to the environmental corrosivity.

Climate (outside)	Aluminium		
E19			
E17/E18			
E16			
E15			
E14			
E13			
E12			
E11			
	5	10	15
	Durability (years) ^{A1}		

A1)

Durability is not a guaranteed period. This is a technical concept that can help customers to establish a maintenance programme.

The warranty period is a legal concept that is part of a contract. The warranty period is generally shorter than durability.

This information is given as an indication. It is based on our experience and laboratory results, and does not constitute a commitment on our part.

Atmosphere (inside)	Aluminium		
I5			
I4			
I3			
I2			
I1			
	5	10	15
	Durability (years) ^{A1}		

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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 any testing you may need to conduct to determine for yourself the suitability of a specific material for your particular purposes. Since Axalta Coating Systems cannot anticipate all variations in actual end-use conditions, Axalta Coating Systems makes no guarantees and assumes no liability in connection with any use of this information. Nothing in this publication is to be considered as a licence to operate under or a recommendation to infringe any patent rights.



Homologated by Qualisteelcoat

How to select the most appropriate anticorrosion system for your application

1 - IDENTIFY THE ENVIRONMENT:

Select the environment where your product will be used

A / For steel supports and galvanised steel, the ISO 12944-2 standard states 6 corrosive levels (C1 is an “indoor” class)

Corrosivity category	Exterior	Interior	Durability*	(ISO 12944-2) Neutral salt spray hours ⁽¹⁾
C1		Heated buildings with clean atmospheres, e.g. schools, hotels, shops, offices		-
				-
				-
C2	Atmospheres with low levels of pollution. Mostly rural areas	Unheated buildings where condensation may occur, e.g. storage areas, sports halls		-
				-
				-
C3	Urban and industrial atmospheres, moderate sulphur dioxide pollution. Coastal areas with low salinity	Production rooms with high humidity and some air pollution, e.g. food-industry plants, laundries, breweries, dairies	low	120
			middle	240
			high	480
C4	Industrial areas and coastal areas with moderate salinity. (Seaside, >3 km from coast)	Chemical plants, swimming pools, coastal ship and boatyards laboratories, slaughterhouses (high-pressure cleaning)	low	240
			middle	480
			high	720
C5-M	Coastal and offshore areas with high salinity. (between 1 and 3 km from coast)	Buildings or areas with almost permanent condensation and with high pollution levels	low	480
			middle	720
			high	1440
C5-I	Industrial areas with high humidity and aggressive atmosphere	Buildings or areas with almost permanent condensation and with high pollution levels (steam, closed swimming pool, chemical factory)	low	480
			middle	720
			high	1440

(1) With scribe on steel substrate and without scribe on galvanised steel up to ISO 12944 standard

*Durability: low: < 5 years; middle: 5 – 15 years; high: > 15 years

B / For aluminium substrates, the NFP 24-351 standard describes the corrosive environments

Corrosivity categories (outside)	Description	Corrosivity categories (outside)	Description
E11	Rural climate with low pollution levels	I1	Area with low humidity
E12	Urban or industrial climate (low pollution levels)	I2	Area with medium humidity
E13	Urban or industrial harsh climate (high pollution levels)	I3	Area with high humidity
E14	Marine climate (10-20 km from coast)	I4	Area with very high humidity
E15	Marine climate (3-10 km from coast)	I5	Aggressive atmosphere
E16	Marine climate (seaside < 3 km; seafront excluded)		
E17	Normal mixed climate (seaside and urban or industrial)		
E18	Harsh mixed climate (seaside and urban or industrial, harsh)		
E19	Very harsh climate (corrosivity, abrasion, sea spray, temperature, hygrometry etc.)		

2 - IDENTIFY LIFETIME:

Select the needed lifetime. The lifetime cycles are split into 5-year intervals that allow the selection of the most appropriate powder coating system for your specifications.

3 - IDENTIFY THE SUPPORT:

The identification of the substrate to be coated depends on its nature and/or design:

- Ferrous substrates (steel with low carbon content, alloyed steel, wrought iron...)
- Degassing support (foundry, galvanised steel, metallised steel)
- Parts with sharp edges
- Aluminium (profile, sheet metal)

Note: The estimated durability takes into account the frequency of cleaning the painted surfaces depending on the environmental corrosivity.

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