Service Information Bulletin
11/2021

Alesta® ZeroZinc primers

Best practice for the use of ZeroZinc 2-layer systems

The object of this leaflet is to give some advice concerning the use of Alesta® ZeroZinc primers as part of 2-layer anticorrosion systems.

Primers

Alesta® ZeroZinc Steel Prime
Alesta® ZeroZinc Antigassing Prime
Alesta® ZeroZinc Edge Prime
Alesta® ZeroZinc Uniprime

Topcoats

Alesta® EP*, IP**, AP**, SD**
* For indoor use only
** Please refer to the required durability in the specifications

General rules

These systems must be tested and qualified according to a defined process (products and process) in order to reach and sustain the performance required by the specifications.

Spraying advice

1st layer: primer

The operator adjusts the settings according to the speed of the line and the spraying equipment in place (manual, automatic, number of guns) in order to obtain an optimum thickness of 60 – 80 µm.

Note

If the 1st layer is too thick (> 100 µm), that may lead to some spraying issues when applying the topcoat (electrostatic repulsion).

Settings

With Corona equipment, we advise a voltage of 60 – 80 kV and no limitation of the intensity.

Process

1. Start by spraying the main difficult parts of the piece to be coated where corrosion often begins, like welds, Faraday cages, angles etc.; that means all areas that might lead to the start of corrosion due to localised lower paint thickness.
2. Then spray the easiest areas.
3. Lastly, we advise respraying the whole piece at a distance of 15 – 20 cm from the gun to harmonise thickness and improve edge coverage.

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Spraying advice

2nd layer: Topcoat

The topcoat is sprayed immediately after the 1st layer is melted (or cured) and then cooled, without any preliminary treatment or handling to avoid contamination. Think of the overcoat as fast as possible (under 4 hours).

Note

If the manufacturing process flow isn't easy, we advise taking the appropriate measures to avoid contamination of the 1st layer (dust, humidity, grease etc.). Before starting to spray the topcoat, we advise the following rules and/or checking the following points:

- Do not touch the parts to be sprayed with a topcoat
- Ground contact must be good
- Hooks must be tidy to ensure good conductivity
- Thickness of 1st layer should be less than 100 µm

Settings

With Corona equipment, we advise a voltage of 35 – 50 kV* and limitation of the intensity at 10 µA*, as well as an increase in the powder output as a consequence of the related drop in the electrostatic yield.

* Provided that the equipment allows these settings

Based on the equipment, the operator adjusts the settings in order to obtain the required thickness and coating aspect.

Spraying a metallic topcoat will require tests to judge the aspect.

Process

1. Start by spraying the main difficult part of the piece to be coated and areas sensitive to corrosion, like welds, Faraday areas, angles etc.; that means all areas that might lead to the start of corrosion due to localised lower paint thickness.
2. Then spray the easiest areas.
3. Lastly, we advise respraying the whole piece at a distance of more than 20 cm from the gun to harmonise thickness.

Curing conditions

1st layer: Please refer to the TDS for each of the primers used.

2nd layer: The final 2-layer system is cured according to the topcoat-curing window mentioned in the related TDS. If a top coat is not sufficiently cured, it will result in a lack of flexibility and some intercoat adhesion issues.

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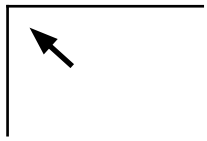
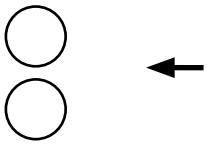
Based on the available equipment and the areas to be painted, settings mught be optimised to improve the painting results.

		AIR - action to be taken	VOLTAGE - POWER	Position of powder gun
	**Angle, weld, bend etc.**	Injection air ↗ Additional air ↘	80 kV – free	- Use the form of the spray - Work alongside the faraday cage - Use a nozzle with a small diameter - Work fast at a short distance
	**Hollow element**	Additional air ↗	50 kV – 20 µA	- Use a flat nozzle - Work at a short distance
		Additional air ↘	Free	- Use the electrostatic field bypass - Work in parallel to the cage to avoid blowing the powder
	**Sharp edge**		100 kV – 100 µA	

The information provided herein is based on our knowledge on the subject at the date of publication and only concerns Axalta Coating Systems' 2-layer systems. The information does not constitute any form of guarantee under any circumstances.