



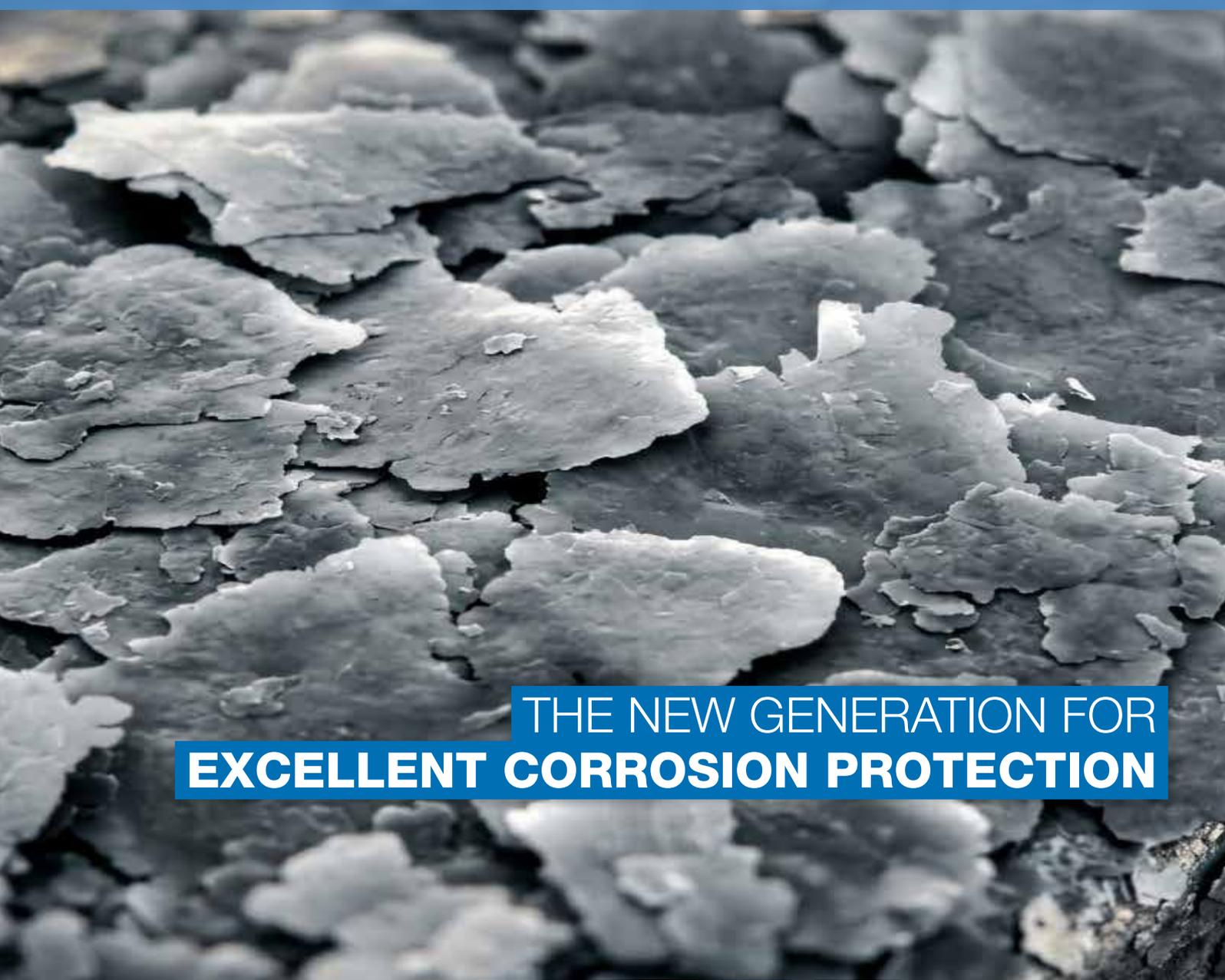
WEICON[®]



WEICON

20 YEARS

ZINC FLAKE TECHNOLOGY



THE NEW GENERATION FOR
EXCELLENT CORROSION PROTECTION

www.weicon.com

V 1.26



Management System
ISO 9001:2015
ISO 14001:2015

www.tuv.com
ID 9108636595

WEICON ZINC SPRAYS

Effective solutions for protecting surfaces against corrosion

It relentlessly eats away, corrodes and destroys. It stops at nothing, attacking everything from steel giants like ships and bridges to the garden fence at home. Yes, we're talking about **rust! Metal's eternal enemy!** But even when the battle seems hopeless, there are ways to keep the iron-eater under control!

How can rust be prevented?

WEICON offers a whole range of solutions, including WEICON Zinc Sprays! Surface and corrosion protection based on high-purity metal pigments and synthetic resins.

20 years of zinc flake technology

Twenty years ago, we revolutionised our zinc sprays, setting a new benchmark in sprayable corrosion protection primers – with zinc flake technology!

Before that, the rule was: The greater the zinc content in a coating, the stronger the corrosion protection. Spherical pigments, combined with a relatively thick coating, provided the basis for this.

Compared with these pigments, zinc flakes deliver far superior protection for coated surfaces. They have a large specific surface area, creating an especially strong barrier effect (shingle effect). Even when the particles shift, contact, conductivity and therefore cathodic corrosion protection remain intact thanks to the closely packed pigments. Surfaces coated with zinc flakes are far more resistant to environmental influences: The flakes' strongly hydrophobic (water-repellent) surface makes it difficult for water and moisture to penetrate. By creating smoother and more stable surfaces, the flakes provide an ideal foundation for demanding topcoats.

WEICON Zinc Spray uses a combination of zinc and aluminium flakes with an exceptionally high purity (99.9%). The flakes provide long-lasting corrosion protection, withstanding a salt spray test according to DIN 53167 and DIN 50021 for over 1050 hours (WEICON Zinc Spray).



WhatsApp-
Service



Flake-shaped rather than spherical metal pigments

ZINC SPRAYS

Corrosion protection primers based on zinc flakes provide far superior protection compared to spherical zinc dust.

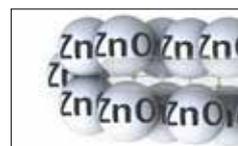
Zinc flakes offer the following key advantages:

- ▶ Large surface geometry and overlapping
- ▶ High barrier effect (shingle effect) and long diffusion paths
- ▶ Contact, conductivity and cathodic corrosion protection are maintained even when particles shift
- ▶ Highly hydrophobic (water-repellent), smoother surface
- ▶ Greater resistance to environmental influences, moisture and water
- ▶ Densely packed pigments improve weldability
- ▶ Easier processing owing to lower settling behaviour
- ▶ Exceptionally high purity of 99.9%
- ▶ Light colour similar to fresh galvanisation (WEICON Zinc Spray bright grade, Zinc-Alu Spray) or slightly weathered hot-dip galvanisation (WEICON Zinc Spray)

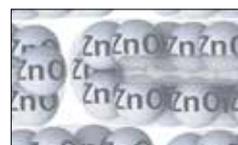
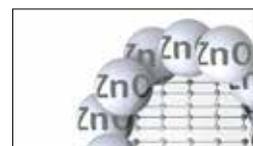
Development of zinc oxide



Oxygen and moisture start oxidation.



Formation of zinc oxide on the pigment surface.



Large increase in volume and agglomeration of the zinc pigments.



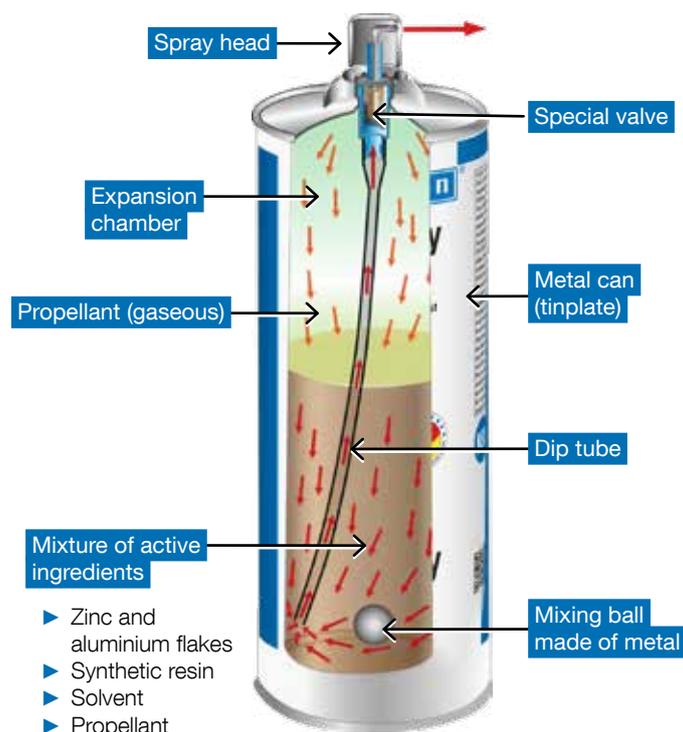
Diffusion paths through the zinc layer.

All-in-one packaging and applicator

THE SPRAY CAN

A **SYSTEM** designed to work perfectly!

- ✓ **Careful selection of raw materials**
- ✓ **High-quality active ingredients**
 - ▶ Mixture of high-purity metal pigments as active ingredients
 - ▶ Resin, additives and solvents
 - ▶ Propellant (dimethyl ether, propane/butane)
 - ▶ Low sedimentation and easier processing
- ✓ **Professional can equipment**
 - ▶ Tinplate can with up to 15 bar pressure resistance
 - ▶ VPH special valves – no need for overhead spraying
 - ▶ Spray head with 10° conical nozzle
- ✓ **Perfection in filling**
 - ▶ State-of-the-art filling machines
 - ▶ 100% quality control through individual testing of each can



Metal Sprays

CATHODIC CORROSION PROTECTION

- ▶ WEICON Zinc Sprays use high-purity zinc and aluminium flakes to deliver active and passive corrosion protection
- ▶ In addition to cathodic corrosion protection, they also provide excellent barrier protection
- ▶ Through metal contact and the influence of moisture and oxygen, the active ingredient begins to cement (formation of hydrozincite)
- ▶ An oxide or hydroxide layer forms around each zinc pigment, which greatly increases the volume of the zinc dust flakes in the micrometre range and creates a strong bond
- ▶ If the surface coating is damaged (up to 1 mm) down to bare metal, the protective effect is reactivated as the zinc pigments are exposed



Zinc Spray

long-lasting cathodic corrosion protection | paintable | >1050 hours salt spray test according to DIN EN ISO 9227 | NSF certification

WEICON Zinc Spray is approved by the German TÜV and provides all metal surfaces with a long-lasting cathodic corrosion protection. It forms a fast-drying, adherent protective layer of microfine zinc flakes.

In a salt spray test according to DIN EN ISO 9227, metal parts coated with WEICON Zinc Spray showed no signs of corrosion even after more than 1,050 hours.

The zinc flakes form a resistant protective layer even against extreme weather and environmental conditions.

That way, WEICON Zinc Spray fulfils higher requirements than those defined by the DIN EN ISO 1461 standard. It can be used as a high-quality rust protection primer, for coating welds and drill holes, as a conductive intermediate layer in spot welding, and wherever metal needs protection against corrosion.

▶ 400 ml
10000016



Zinc Spray bright grade

long-lasting cathodic corrosion protection | colour matching fresh hot-dip galvanisation | NSF certification

WEICON Zinc Spray bright grade is approved by the German TÜV and provides all metal surfaces with a long-lasting cathodic corrosion protection. It has a bright colour shade matching hot-dip galvanisation.

In a salt spray test according to DIN EN ISO 9227, metal parts coated with WEICON Zinc Spray bright grade showed no signs of corrosion even after more than 550 hours.

The zinc flakes form a resistant protective layer even against extreme weather and environmental conditions.

Zinc Spray bright grade can be used as a high-quality rust protection primer, for coating welds and drill holes, as a conductive intermediate layer in spot welding, and wherever metal needs protection against corrosion.

▶ 400 ml
10000047



Zinc-Alu Spray

preferred for repairing damaged galvanisation | colour matching fresh hot-dip galvanisation

WEICON Zinc-Alu Spray permanently protects all metal surfaces against rust and corrosion. It creates a fast-drying, strongly adhering protective layer and is resistant to many chemicals.

In a salt spray test according to DIN EN ISO 9227, metal parts coated with WEICON Zinc-Alu Spray showed no signs of corrosion even after more than 450 hours.

It can be used to repair damaged galvanised surfaces in a matching colour and to coat welds and drill holes.

▶ 400 ml
10000048



Galva Spray

long-lasting cathodic corrosion protection | colour matching fresh hot-dip galvanisation

WEICON Galva Spray serves as a permanent protective layer for all metal surfaces. It protects metals against rust and corrosion and forms a fast-drying, strongly adhering layer. The spray is resistant to salt and fresh water and temperature-resistant up to approx. +300 °C (+572 °F).

In a salt spray test according to DIN EN ISO 9227, metal parts coated with WEICON Galva Spray showed no signs of corrosion even after more than 450 hours.

The spray can be used to repair damaged galvanised surfaces in a matching colour, as a high-quality rust protection primer (for example on vehicle bodywork), to coat welds and drill holes, and as a conductive intermediate layer in spot welding.

▶ 400 ml
10040054



More products
for corrosion protection



Quality control

SALT SPRAY TEST

DIN EN ISO 9227



WEICON Zinc Spray
>1,050 hours

Corrosion exposure up to C5-I medium, C4 long



WEICON Zinc Spray
bright grade
>550 hours

Corrosion exposure C4 medium, C3 long



WEICON Zinc-Alu Spray
>450 hours

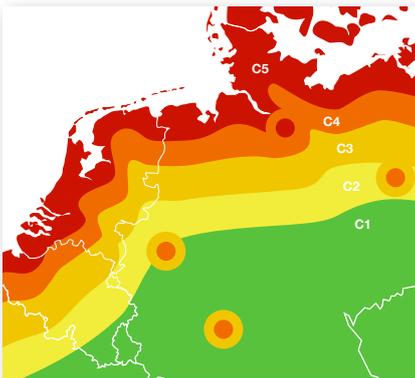
Corrosion exposure C4 medium, C3 long

DIN EN ISO 9227 describes a method for comparative testing to determine whether the quality of a metallic material, with or without corrosion protection, is maintained. Salt spray tests are also used in the tests specified by the standard. These tests are suitable for corrosion protection assessment, revealing weak points, pores and defects in both organic and inorganic coatings. In salt spray tests at the Institut für Korrosionsschutz Dresden GmbH, a German corrosion testing institute, our three sprays confirmed their previously excellent performance.



Salt spray testing and corrosion protection classes

DIN EN ISO 12944 specifies the duration of protection provided by a surface coating and the required coating thickness. The protection duration classes defined there are intended as guidelines – they do not constitute a guarantee or warranty period.

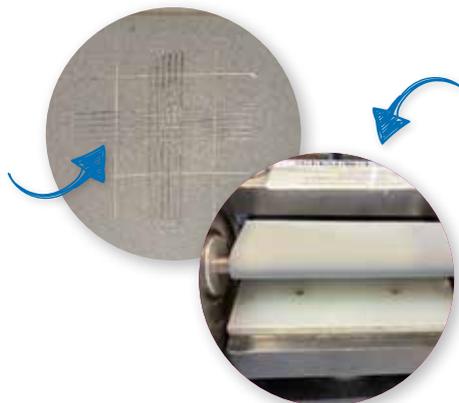


Corrosivity category / Corrosion exposure	Corrosivity	Corrosivity protection duration (class)	Duration of protection	Nominal coating thickness	Salt spray exposure time	Examples of typical environments
C1 insignificant	very low	short	2-5 years	70 µm	-	indoor only
	low aggressiveness	medium	5-10 years	70 µm	-	
	indoor use	long	>15 years	70 µm	-	
C2 low	low	short	2-5 years	80 µm	-	low-pollution atmosphere, dry climate
	moderate aggressiveness	medium	5-10 years	120 µm	-	
	outdoor/indoor	long	>15 years	160 µm	-	
C3 moderate	moderate	short	2-5 years	120 µm	120 h	urban and industrial atmosphere, temperate climate
	low aggressiveness	medium	5-10 years	160 µm	240 h	
	outdoor/indoor	long	>15 years	200 µm	480 h	
C4 strong	high	short	2-5 years	160 µm	240 h	industrial and coastal atmosphere with moderate salt exposure
	moderate aggressiveness	medium	5-10 years	200 µm	480 h	
	outdoor/indoor	long	>15 years	240-280 µm	720 h	
C5-I very strong (industry)	very high	short	2-5 years	200 µm	480 h	aggressive industrial atmosphere with high humidity
	aggressive	medium	5-10 years	240-280 µm	720 h	
	outdoor/indoor	long	>15 years	320 µm	1440 h	
C5-M very strong (offshore)	very high	short	2-5 years	200 µm	480 h	coastal and offshore areas with high salt exposure
	maritime	medium	5-10 years	240-280 µm	720 h	
	outdoor/indoor	long	>15 years	320 µm	1440 h	

CROSS-CUT TEST

DIN EN ISO 2409

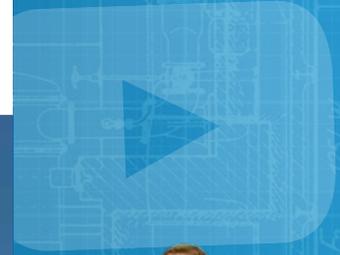
A cross-cut pattern is applied to coated sheets using a six-blade cutting tool, forming a lattice of intersecting cuts.



MANDREL BEND TEST

DIN EN ISO 1519

The coating's resistance to cracking and/or detachment from the metal is assessed by bending the sheet around a cylindrical mandrel (5 mm) under standard conditions.



Technical data

	Zinc Spray 	Zinc Spray bright grade 	Zinc-Alu Spray	Galva Spray
NSF certificate			-	-
Colour	matched to slightly weathered hot-dip galvanisation	matched to fresh hot-dip galvanisation	matched to fresh hot-dip galvanisation	matched to fresh hot-dip galvanisation
Application range	indoor and outdoor use			
Binder	styrene alkyd	modified alkyd resin	acrylate resin	acrylate resin
Pigment	flaky zinc and aluminium pigments	flaky zinc and aluminium pigments	zinc and aluminium pigments	zinc and aluminium pigments
Pigment purity	approx. 99.9 Zn / approx. 99.9% Al	approx. 99.9 Zn / approx. 99.5% Al	approx. 99.5% Al / approx. 94.0% Zn	approx. 99.5% Al / approx. 94.0% Zn
Metal content in the dry film	approx. 70%	approx. 70%	approx. 51%	approx. 51%
Can content	400 ml	400 ml	400 ml	400 ml
Specific weight g/cm ³	1.1 - 1.3	1.0 - 1.2	0,90 - 1,0	0,90 - 1,0
Recommended primer	not required	Zinc Spray	Zinc Spray	Zinc Spray
Processing temperature* ¹	from +5 °C (+41 °F) to +35 °C (+95 °F), optimum processing temperature from +18 °C (+64 °F) to +25 °C (+77 °F)	from +5 °C (+41 °F) to +35 °C (+95 °F), optimum processing temperature from +18 °C (+64 °F) to +25 °C (+77 °F)	from +5 °C (+41 °F) to +35 °C (+95 °F), optimum processing temperature from +18 °C (+64 °F) to +25 °C (+77 °F)	from +5 °C (+41 °F) to +35 °C (+95 °F), optimum processing temperature from +18 °C (+64 °F) to +25 °C (+77 °F)
Coverage for 1.5 cross-coats* ²	approx. 150 ml/m ²	approx. 150 ml/m ²	approx. 150 ml/m ²	approx. 150 ml/m ²
Coating thickness for 1.5 cross-coats* ²	approx. 30 - 50 µm	approx. 20 - 40 µm	approx. 20 - 40 µm	approx. 20 - 40 µm
Drying time* ²	dust-dry	approx. 15 minutes	approx. 15 minutes	approx. 15 minutes
	fully cured	10-12 hours	10-12 hours	10-12 hours
	ready for painting	approx. 24 hours	approx. 24 hours	approx. 12 hours
Abrasion-resistant:	abrasion-resistant	abrasion-resistant	abrasion-resistant	abrasion-resistant
Cross cut (DIN 53151/ ISO 2409)	cross-cut rating GT 0	cross-cut rating GT 0 to GT 1	cross-cut rating GT 0 to GT 1	cross-cut rating GT 0 to GT 1
Salt spray test (DIN EN ISO 9227)	>1,050 hours	>550 hours	>450 hours	>450 hours
Mandrel bend test (DIN EN ISO 1519)	no hairline cracking	no hairline cracking	no hairline cracking	no hairline cracking
Top coat	not required	not required	not required	not required
Temperature resistance after complete curing:	from -50 °C (-58 °F) to +500 °C (+932 °F)	from -50 °C (-58 °F) to +300 °C (+572 °F)	from -50 °C (-58 °F) to +300 °C (+572 °F)	from -50 °C (-58 °F) to +300 °C (+572 °F)
Storage stability* ³	24 months	24 months	24 months	24 months

Protection in a can
Sprays for surface protection



*¹ Warm spray cans to room temperature +20 °C (+68 °F) before use at lower temperatures below +10 °C (+50 °F).

*² +20 °C (+68 °F) temperature of the can and the surface and 50% relative humidity.

*³ At a constant room temperature and dry storage. This applies to unopened original containers that are not exposed to direct or indirect sunlight.

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**20 Years
of Zinc Flake
Technology**

Art.-No. 10106732

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