SHERWIN WILLIAMS®

BUILDING TRUST
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SYSTEM DATA SHEET

SikaCor® EG System Plus

Future name: EG System Plus

Economical corrosion protection system for heavy duty corrosion protection

DESCRIPTION

SikaCor® EG System Plus is a combination of 2-pack priming- and intermediate coats based on epoxy resin and polyurethane top coats with high weather resistance.

SikaCor® Zinc R Plus
2-pack high solid, fast curing zinc-rich primerbased on epoxy resin.

SikaCor® EG Phosphat Plus
2-pack high solid, fast curing primer based on epoxy resin containing zinc-phosphate as an active anti-corrosion pigment.
In a layer thickness of ~20 µm SikaCor® EG Phosphat Plus can also be used as a weldable shop primer.

SikaCor® EG-1 Plus
2-pack high solid, fast curing intermediate coat based on an epoxy resin containing micaceous iron oxide.
In a layer thickness of ~20 µm SikaCor® EG-1 Plus can also be used as sealer for thermal-sprayed zinc coatings.

SikaCor® EG-4
2-pack solvent based acrylic-polyurethane top coat in DB colour shades, containing micaceous iron oxide.

SikaCor® EG-5
2-pack solvent based acrylic-polyurethane top coat in RAL colour shades.

SikaCor® Zinc R Plus, SikaCor® EG Phosphat Plus and SikaCor® EG-1 Plus have low solvent content referring to Protective Coatings Directive of German Paint Industry Association (VdL-RL 04).

USES

SikaCor® EG System Plus may only be used by experienced professionals.

Robust corrosion protection for steel, stainless steel, aluminium and galvanized surfaces providing a durable and decorative effect.
Mainly for bridges, pipelines, containers, industrial and harbour installations, sewage treatment plants and large machinery; submerged or non-submerged in industrial or marine environments.
Particularly suited for workshop application as heavy duty travel coat system.

CHARACTERISTICS / ADVANTAGES

- Very good corrosion resistance
- Low consumption per square meter
- Fast curing, short overcoating time
- Direct to steel, hot-dip galvanized steel, zinc spraying, stainless steel and aluminium
- Tough elastic and dense but not brittle
- Abrasion resistant, insensitive against shock and impact

APPROVALS / CERTIFICATES

- SikaCor® EG System Plus is approved according to German standard 'TL-KOR Stahlbauten, Blatt 87'.
- Certificates for C4 high, C5 high and very high acc. ISO 12944 are available.
- Certificate for weldable shop primer acc. DIN EN ISO 17652-2 is available.

PRODUCT INFORMATION

Packaging

SikaCor® Zinc R Plus	22 kg, 15 kg and 6 kg net.
SikaCor® EG Phosphat Plus	30 kg, 15 kg and 3 kg net.
SikaCor® EG-1 Plus	30 kg, 15 kg and 3 kg net.
SikaCor® EG-4	30 kg, 12.5 kg and 3 kg*) net.
SikaCor® EG-5	30 kg, 10 kg and 3 kg*) net.
Sika® Thinner EG	25 l, 10 l and 3 l
SikaCor® Cleaner	160 l and 25 l

*) Purchase of individual 3 kg containers in variety of colours is possible through specialized retailers.

Appearance and colour

Colour Shades

DB (MIO), RAL, NCS colour shades, further colour shades upon request.
Slight colour deviations are possible due to raw material characteristics.

SikaCor® Zinc R Plus	▪ Zinc grey, mat.-no. 687.03 ▪ Tinted red, mat.-no. 687.04
SikaCor® EG Phosphat Plus	▪ Sand-yellow, approx. RAL 1002,mat.-no. 687.02 ▪ Red-brown, approx. RAL 8012,mat.-no 687.06 ▪ Zinc grey, approx. RAL 7005
SikaCor® EG-1 Plus	MIO color shades (containing micaceous iron oxide): ▪ Grey metallic ap. DB 702, mat.-no. 687.12 ▪ Grey metallic ap. DB 703, mat.-no. 687.13 ▪ Green metallic ap. DB 601, mat.-no. 687.14 MIO-free color shades (free of micaceous iron oxide): ▪ White
SikaCor® EG-4	MIO color shades, material no. 687.30 - 687.74
SikaCor® EG-5	RAL colour shades, material no. 687.75 - 687.99

Shelf life

SikaCor® Zinc R Plus	1 year
SikaCor® EG Phosphat Plus	3 years
SikaCor® EG-1 Plus	2 years
SikaCor® EG-4	2 years
SikaCor® EG-5	2 years

Storage conditions

In originally sealed containers in a cool and dry environment.

Density

SikaCor® Zinc R Plus	~2.3 kg/l
SikaCor® EG Phosphat Plus	~1.6 kg/l
SikaCor® EG-1 Plus MIO color shades	~1.5 kg/l
SikaCor® EG-1 Plus White/MIO-free	~1.4 kg/l
SikaCor® EG-4	~1.4 kg/l
SikaCor® EG-5	~1.3 kg/l

Solid content

	By volume	By weight
SikaCor® Zinc R Plus	~71 %	~89 %
SikaCor® EG Phosphat Plus	~62 %	~80 %
SikaCor® EG-1 Plus MIO color shades	~69 %	~81 %
SikaCor® EG-1 Plus White/MIO-free	~70 %	~81 %
SikaCor® EG-4	~55 %	~70 %
SikaCor® EG-5	~61 %	~74 %

TECHNICAL INFORMATION

Chemical resistance

The SikaCor® EG System Plus is resistant to weather, water, sewage, sea-water, smoke, de-icing salts, acid and lye vapours, oils, grease and short-term exposure to fuels and solvents.

Temperature resistance

Depending on the used primer coat:

SikaCor® Zinc R Plus
Dry heat up to + 150 °C, short term up to + 180 °C
Damp heat up to approx. + 50 °C

SikaCor® EG Phosphat Plus / SikaCor® EG-1 Plus
Dry heat up to + 150 °C, short term up to + 200 °C
Damp heat up to approx. + 50 °C

In case of higher temperatures please contact us.
An exposure to high temperatures can lead to color changes.

SYSTEM INFORMATION

System

Steel

2-layer system:
1 x SikaCor® EG-1 Plus or 1x SikaCor® EG Phosphat Plus
1 x SikaCor® EG-4 or SikaCor® EG-5

3-/4-layer system:
1 x SikaCor® Zinc R Plus or 1 x SikaCor® EG Phosphat Plus
1-2 x SikaCor® EG-1 Plus
1 x SikaCor® EG-4 or SikaCor® EG-5
In case of permanent submersion or exposure to condensation prime with SikaCor® Zinc R Plus only.

Hot dip galvanized steel, aluminium and stainless steel
1 x SikaCor® EG-1 Plus
1 x SikaCor® EG-4 or SikaCor® EG-5

Thermal-sprayed metallic zinc coatings
1 x SikaCor® EG-1 Plus as sealer
1 x SikaCor® EG-1 Plus
1 x SikaCor® EG-4 or SikaCor® EG-5

When applying the light colours of SikaCor® EG-5 a second coat may become necessary to achieve perfect opacity.

APPLICATION INFORMATION

Mixing ratio

Components A : B	By weight	By volume
SikaCor® Zinc R Plus	94 : 6	6.1 : 1
SikaCor® EG Phosphat Plus	90 : 10	4.6 : 1
SikaCor® EG-1 Plus	90 : 10	5.7 : 1
SikaCor® EG-4	92 : 8	8.9 : 1
SikaCor® EG-5	90 : 10	7.1 : 1*

*The volumetric mixing ratio may vary depending on the colour shade. Please refer to Sika, if needed.

Thinner

Adapt the viscosity:
If necessary, max. 5 % b. w. Sika® Thinner EG may be added to adapt the viscosity of SikaCor® EG Phosphat Plus, SikaCor® EG-1 Plus, SikaCor® EG-4 or

SikaCor® EG-5. For SikaCor® Zinc R Plus use max. 3 % b. w. Sika® Thinner K.

SikaCor® EG Phosphat Plus as weldable shop primer: Add approx. 18 % b.w. Sika® Thinner EG.

SikaCor® EG-1 Plus as a sealer: Thinn with 20 % b. w. Sika® Thinner EG. Use the heavily diluted material immediately and under constant stirring.

Consumption

Theoretical material-consumption/VOC without loss for medium dry film thickness:

SikaCor® Zinc R Plus

Dry film thickness	60µm	80 µm
Wet film thickness	85 µm	113 µm
Consumption	~0.194 kg/m²	~0.259 kg/m²
VOC	~21 g/m²	~29 g/m²

Apart from small areas the dry film thickness of SikaCor® Zinc R Plus should not exceed 150 µm per layer.

SikaCor® EG Phosphat Plus

Dry film thickness	20µm	80 µm
Wet film thickness	44 µm	129 µm
Consumption	~0.067 kg/m²	~0.206 kg/m²
VOC	~21 g/m²	~41 g/m²

The dry film thickness of SikaCor® EG Phosphate Plus should not exceed 240 µm per layer.

SikaCor® EG-1 Plus MIO color shades

Dry film thickness	80µm	160 µm
Wet film thickness	116 µm	232 µm
Consumption	~0.174 kg/m²	~0.348 kg/m²
VOC	~33 g/m²	~66 g/m²

The dry film thickness of SikaCor® EG-1 Plus in MIO containing color shades should not exceed 320 µm per layer.

SikaCor® EG-1 Plus MIO-free color shades

Dry film thickness	80µm	160 µm
Wet film thickness	114 µm	228 µm
Consumption	~0.160 kg/m²	~0.320 kg/m²
VOC	~30 g/m²	~60 g/m²

The dry film thickness of SikaCor® EG-1 Plus in MIO-free color shades should not exceed 400 µm per layer.

SikaCor® EG-4

Dry film thickness	80 µm
Wet film thickness	145 µm
Consumption	~0.205 kg/m²
VOC	~61 g/m²

The dry film thickness of SikaCor® EG-4 should not exceed 240 µm per layer.

SikaCor® EG-5

Dry film thickness	60 µm	80 µm
Wet film thickness	100 µm	130 µm
Consumption	~0.130 kg/m²	~0.170 kg/m²
VOC	~33 g/m²	~44 g/m²

The dry film thickness of SikaCor® EG-5 should not exceed 240 µm per layer. In case of high air humidity CO^2-bubbles may occur.

Material temperature

Min. + 5°C

Relative air humidity

Max. 85 %, except the surface temperature is significantly higher than the dew point temperature, it shall be at least 3 K above dew point.
The surface must be dry and free from ice.

Substrate temperature

Min. + 5 °C
Min. 0 °C for SikaCor® EG-4 and SikaCor® EG-5 accelerated with SikaCor® PUR Accelerator.

Pot Life

SikaCor® EG Phosphat Plus , SikaCor® Zinc R Plus and SikaCor® EG-1 Plus

At + 10 °C	~12 h
At + 20 °C	~8 h
At + 30 °C	~5 h

SikaCor® EG-4 and SikaCor® EG-5

At + 10 °C	~7 h	~5 h*
At + 20 °C	~6 h	~3 h*
At + 30 °C	~4 h	~2 h*

* By adding 1 % b.w. SikaCor® PUR Accelerator

Drying stage 6

Dry film thickness 80 µm (ISO 9117-5)

	SikaCor® Zinc R Plus	SikaCor® EG Phosphat Plus	SikaCor® EG-1 Plus
+ 5°C after h	3 h	10 h	12 h
+ 10°C after	2.5 h	7 h	8 h
+ 20°C after	2 h	3,5 h	4 h
+ 30°C after	0.75 h	1 h	2 h

	SikaCor® EG-4	SikaCor® EG-5
+ 5 °C after	19 h	21 h
+ 10 °C after	16 h	18 h
+ 20 °C after	12 h	14 h
+ 40 °C after	1,5 h	3 h

	SikaCor® EG-4*	SikaCor® EG-5*
0 °C after	48 h	52 h
+ 5 °C after	16 h	18 h
+ 10 °C after	12 h	13 h
+ 20 °C after	4 h	5 h

* By adding 1 % b.w. SikaCor® PUR Accelerator.

Different temperatures and dry film thicknesses have a significant influence on the drying and curing time.

Waiting time to overcoating

Min.: Until drying stage 6 is achieved.
Higher layer thicknesses, but also lower temperatures than specified, lead to longer drying times. The overcoating intervals can be delayed and may need to be determined on site.
Max.:

SikaCor® Zinc R Plus	1 year
SikaCor® EG Phosphat Plus	1 year
SikaCor® EG-1 Plus	4 years
SikaCor® EG-4	unlimited
SikaCor® EG-5	unlimited

In case of longer waiting times please contact us.

	Prior to further applications: After a waiting period or after exposure to weathering, all possible contamination must be removed from the surface before the subsequent coating is applied. **Note, if using SikaCor® EG-1 Plus as a sealer:** Pre-spray the thinned SikaCor® EG-1 Plus thinly onto the thermal-sprayed zinc coat and after a waiting time of approx. 15 minutes, spray 'wet on wet' the missing layer thickness of SikaCor® EG-1 Plus.
Drying time	**Final drying time** Depending on film thickness and temperature full hardness is achieved after 1-2 weeks. Tests of the completed coating system should only be carried out after final curing.

BASIS OF PRODUCT DATA

All technical data stated in this Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

ECOLOGY, HEALTH AND SAFETY

User must read the most recent corresponding Safety Data Sheets (SDS) before using any products. The SDS provides information and advice on the safe handling, storage and disposal of chemical products and contains physical, ecological, toxicological and other safety-related data.

APPLICATION INSTRUCTIONS

SURFACE PREPARATION

Steel:
Blast-cleaning to Sa 2 ½ according to ISO 12944-4.
Free from dirt, oil and grease.

Hot dip galvanized steel, stainless steel, aluminium:
Free from dirt, oil, grease and corrosion products.
In case of permanent immersion and condensation the surfaces must be slightly sweep blasted with a ferrite free blasting abrasive.

Thermal-sprayed zinc:
Free from dirt, oil, grease and corrosion products.

For contaminated surfaces e.g. galvanized or primed areas we recommend cleaning with SikaCor® Wash.

MIXING

Stir component A very thoroughly using an electric mixer (start slowly, then increase up to approx. 300 rpm). Add component B carefully and mix both components very thoroughly (including sides and bottom of the container). Mix for at least 3 minutes until a homogeneous mixture is achieved. Fill mixed material into clean container and mix again shortly as described above. During mixing and handling of the materials always wear protective goggles, suitable gloves and other protective clothings.

APPLICATION

The method of application has a major effect on achieving uniform thickness and appearance. Spray application will give the best results. The indicated dry film thickness is easily achieved by airless spray. Adding solvents reduces the sag resistance and the dry film thickness. In case of application by roller or brush, additional applications may become necessary to achieve the required coating thickness, depending on type of construction, site conditions, colour shade etc. Prior to major coating operations a test application on site may be useful to ensure the selected application method will provide the requested results.

By brush and roller:
Roller or brush application is recommended only for small surfaces areas. SikaCor® Zinc R Plus is not suitable for roller application.

Conventional high-pressure spraying:
- Nozzle size 1.5 - 2.5 mm / Pressure 3 - 5 bar
- Oil and water trap is compulsory

Airless spraying:
- Pressure min. 180 bar
- Nozzle size 0.38 - 0.53 mm (0.015 - 0.021 inch)
- Spraying angle 40°- 80°

In order to achieve an attractive appearance, it is recommended - in case of coatings containing micaceous iron oxide - to apply the last top coat by spraying. If spraying is not possible, apply by brush or roller, but only in one direction to avoid streaks. A change between the application types can lead to visually different appearances.

CLEANING OF EQUIPMENT

SikaCor® Cleaner
Spraying equipment must be rinsed with Sika® Thinner EG before using PUR top coats.

LOCAL RESTRICTIONS

Note that as a result of specific local regulations the declared data and recommended uses for this product may vary from country to country. Consult the local Product Data Sheet for the exact product data and uses.

LEGAL NOTES

The information, and, in particular, the recommend-dations relating to the application and end-use of Sherwin-Williams` products, are given in good faith based on Sherwin-Williams` current knowledge and experience of the products when properly stored, handled and applied under normal conditions in accordance with Sherwin-Williams` recommendations. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any written recommendations, or from any other advice offered. The user of the product must test the product's suitability for the intended application and purpose. Sherwin-Williams reserves the right to change the properties of its products. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users must always refer to the most recent issue of the local Product Data Sheet for the product concerned, copies of which will be supplied on request.

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