

SYSTEM DATA SHEET

SikaCor® EG System Rapid Plus

Future name: EG System Rapid Plus

Fast curing, economical corrosion protection system for heavy duty corrosion protection

DESCRIPTION

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

SikaCor® Zinc R Rapid Plus

2-pack high solid, very fast curing zinc-rich primer based on epoxy resin. In a layer thickness of ~20 µm SikaCor® Zinc R Rapid Plus can also be used as a weldable shop primer.

SikaCor® EG Phosphat Rapid

2-pack high solid, very fast curing primer based on epoxy resin containing zinc-phosphate as an active anti-corrosion pigment.

SikaCor® EG-1 Rapid Plus

2-pack high solid, very fast curing intermediate coat based on an epoxy resin containing micaceous iron oxide.

SikaCor® EG-4 (accelerated) and SikaCor® EG-5 (accelerated)

2-pack solvent based acrylic-polyurethane top coats. By adding 1% b.w. SikaCor® PUR Accelerator (see product data sheet for more information) a faster touch-drying and full curing will be achieved.

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

USES

SikaCor® EG System Rapid 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.

The system is especially for the use at low temperature and workshop application. 3 applications per day can be achieved.

CHARACTERISTICS / ADVANTAGES

- Very good corrosion resistance
- Low consumption per square meter
- Applicable at low temperatures
- Very fast initial drying and full hardening
- Up to 3 layers per day
- 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

- Certificates for C5 high and very high acc. ISO 12944 are available.
- Certificate for weldable shop primer acc. DIN EN ISO 17652-2 is available.
- Approved according to German standard 'TL-KOR-Stahlbauten, Blatt 97'

PRODUCT INFORMATION

Packaging	SikaCor® Zinc R Rapid Plus	22 kg net.
	SikaCor® EG Phosphat Rapid	28.5 kg net.
	SikaCor® EG-1 Rapid Plus	28.5 kg net.
	SikaCor® EG-4	30 kg and 12.5 kg net.
	SikaCor® EG-5	30 kg and 10 kg net.
	SikaCor® PUR Accelerator	1 l
	Sika® Thinner EG	25 l, 10 l and 3 l
	ikaCor® Cleaner	160 l and 25 l

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 Rapid Plus	<ul style="list-style-type: none"> ▪ Tinted red, mat.-no. 697.03 ▪ Zinc grey
SikaCor® EG Phosphat Rapid	<ul style="list-style-type: none"> ▪ Sand-yellow, mat.-no. 697.02 ▪ Red-brown, mat.-no. 697.06
SikaCor® EG-1 Rapid Plus	MIO color shades (containing micaceous iron oxide):
	<ul style="list-style-type: none"> ▪ Grey ap. DB 702, mat.-no. 697.12 ▪ Grey ap. DB 703, mat.-no. 697.13 ▪ Green ap. DB 601, mat.-no. 697.14 ▪ Black
	MIO-free color shades (free of micaceous iron oxide):
	<ul style="list-style-type: none"> ▪ White
SikaCor® EG-4	MIO (DB) color shades, mat.-no. 697.30-697.74
SikaCor® EG-5	RAL and NCS colour shades, mat.-no. 697.75-697.99

Shelf life

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

Storage conditions

In originally sealed containers in a cool and dry environment.

Density

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

Solid content

	By volume	By weight
SikaCor® Zinc R Rapid Plus	~69 %	~88 %
SikaCor® EG Phosphat Rapid	~57 %	~79 %
SikaCor® EG-1 Rapid Plus MIO color shades	~66 %	~80 %
SikaCor® EG-1 Rapid Plus White/MIO-free	~70 %	~81 %
SikaCor® EG-4 (accel.)	~55 %	~70 %
SikaCor® EG-5 (accel.)	~61 %	~74 %

TECHNICAL INFORMATION

Chemical resistance	The SikaCor® EG System Rapid Plus is resistant to weather, water, sewage, seawater, 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 Rapid Plus Dry heat up to + 150 °C, short term up to + 180 °C Damp heat up to approx. + 50 °C SikaCor® EG Phosphat Rapid 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 consult us. An exposure to high temperatures can lead to color changes.

SYSTEM INFORMATION

System	Steel 3-/4-layer system: 1 x SikaCor® Zinc R Rapid Plus or 1 x SikaCor® EG Phosphat Rapid 1-2 x SikaCor® EG-1 Rapid Plus 1 x SikaCor® EG-4 (accelerated) or SikaCor® EG-5 (accelerated) In case of permanent submersion or exposure to condensation prime with SikaCor® Zinc R Rapid Plus only. Hot dip galvanized steel, aluminium and stainless steel 1 x SikaCor® EG-1 Rapid Plus 1 x SikaCor® EG-4 (accelerated) or SikaCor® EG-5 (accelerated) When applying the light colours of SikaCor® EG-5 a second coat may become necessary to achieve perfect opacity.
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APPLICATION INFORMATION

Mixing ratio	Components A : B	By weight	By volume
	SikaCor® Zinc R Rapid Plus	94 : 6	5.9 : 1
	SikaCor® EG Phosphat Rapid	94.7 : 5.3	9.2 : 1
	SikaCor® EG-1 Rapid Plus	94.7 : 5.3	11.5 : 1
	SikaCor® EG-4 ¹⁾	92 : 8	8.9 : 1
	SikaCor® EG-5 ¹⁾	90 : 10	7.1 : 1*

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

¹⁾ Dosage of SikaCor® PUR Accelerator

1 % by weight related to mixed material.

Note: SikaCor® PUR Accelerator has got a viscosity-reducing effect.

If necessary, adjust the viscosity only after the addition of SikaCor® PUR Accelerator.

Table of dosage SikaCor® PUR Accelerator

Coating	Unit net. kg	1 % b. w. add in g	1 % b. w. add in ml
1)	30	300	345
2)	12.5	125	140
3)	10	100	115

1) SikaCor® EG-4

2) SikaCor® EG-5

3) SikaCor® EG-4, SikaCor® EG-5

The addition of SikaCor® PUR Accelerator may reduce the gloss of top coats.

Thinner**Adapt the viscosity:**

Coating	Thinner	Maximum addition b. w.
SikaCor® Zinc R Rapid Plus	Sika® Thinner K	3 %
SikaCor® Zinc R Rapid Plus as weldable shop primer	Sika® Thinner K	15 - 20 %
SikaCor® EG Phosphat Rapid	Sika® Thinner EG	5 %
SikaCor® EG-1 Rapid Plus	Sika® Thinner EG	5 %
SikaCor® EG-4 and SikaCor® EG-5	Sika® Thinner EG	5 %

Consumption

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

SikaCor® Zinc R Rapid Plus

Dry film thickness	60 µm	80 µm
Wet film thickness	87 µm	116 µm
Consumption	~0.200 kg/m ²	~0.267 kg/m ²
VOC	~24 g/m ²	~32 g/m ²

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

SikaCor® EG Phosphat Rapid

Dry film thickness	80 µm
Wet film thickness	140 µm
Consumption	~0.225 kg/m ²
VOC	~47 g/m ²

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

SikaCor® EG-1 Rapid Plus MIO color shades

Dry film thickness	80 µm
Wet film thickness	121 µm
Consumption	~0.182 kg/m ²
VOC	~36 g/m ²

The dry film thickness of SikaCor® EG-1 Rapid Plus in MIO containing color shades should not exceed 240 µm per layer.

SikaCor® EG-1 Rapid Plus MIO-free

Dry film thickness	80 µm
Wet film thickness	144 µm
Consumption	~0.160 kg/m ²
VOC	~30 g/m ²

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

SikaCor® EG-4

Dry film thickness	80 µm
Wet film thickness	145 µm
Consumption	~0.205 kg/m ²
VOC	~61 g/m ²

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/m ²	~0.170 kg/m ²
VOC	~33 g/m ²	~44 g/m ²

The dry film thickness of SikaCor® EG-5 should not exceed 240 µm per layer. In case of high air humidity CO₂-bubbles may occur.

Material temperature	Min. 0 °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.
Surface temperature	Min. - 10 °C Min. 0 °C for SikaCor® EG-4 and SikaCor® EG-5, when accelerated with SikaCor® PUR Accelerator.
Pot Life	SikaCor® EG Phosphat Rapid , SikaCor® Zinc R Rapid Plus and SikaCor® EG-1Rapid Plus At + 10°C ~8 h At + 20°C ~5 h At + 30°C ~2 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 Rapid Plus	SikaCor® EG Phosphat Rapid	SikaCor® EG-1 Rapid Plus	
+ 0°C after	4 h	10 h	12 h	
+ 5°C after	1.5 h	5 h	6 h	
+ 10°C after	0.75 h	4 h	5 h	
+ 20°C after	0.5 h	1.5 h	2.5 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 Rapid Plus	1 year
SikaCor® EG Phosphat Rapid	1 year
SikaCor® EG-1 Rapid Plus	1 year
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.

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.

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.

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.

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 clothing.

APPLICATION INSTRUCTIONS

SURFACE PREPARATION

Steel:

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

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 Rapid Plus is not suitable for roller application.

Conventional highpressure 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 recommendations 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.

Sherwin-Williams Coatings

Deutschland GmbH

Rieter Tal

D-71665 Vaihingen / Enz

Phone: +49 (0)7042 109-0

pm.de.info@sherwin.com



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