

Icosit® EG-System

Epoxy Resin MIO + Polyurethane

Product Description

The **Icosit® EG-System** is a combination of two-component primers and intermediate coatings based on an epoxy resin/micaceous iron oxide (MIO) combination with polyurethane based topcoats, offering excellent resistance against chalking as well as colour retention.

Uses

Robust corrosion protection for steel, aluminium and galvanized surfaces providing a durable and decorative effect. Mainly for bridges, pipe lines, containers, industrial and harbour installations, sewage treatment plant and large machinery; submerged or non-submerged in industrial or marine environments. Particularly suited for workshop application as a heavy-duty travel coat system. In a layer thickness of 20 microns **Icosit® EG-Phosphate** can also be used as a weldable shop primer.

Advantages

The coating system combines the excellent corrosion protection abilities of epoxy resins in the primer and intermediate coats with the outstanding weather resistance of polyurethane topcoats.

- Excellent chemical, weather and colour retention
- Tough, elastic and dense but non brittle
- Shock and impact resistant
- Abrasion resistant
- Temperature resistant up to + 150°C.

Test Certificates

Icosit® EG-Phosphate, Friezinc® R, Icosit® EG 1, Icosit® EG 4 and Icosit® EG 5 have been tested and approved by German Railways and comply with TL 918 300, page 87.
For coatings of galvanized steel a test report is also available

Product Data

Grades

Icosit® EG-Phosphate, sand yellow approx. RAL 1002, material no. 687.02
Icosit® EG-Phosphate, red-brown approx. RAL 8012, material no. 687.06 and creme white
Friezinc® R, zinc grey, material no. 687.03
Icosit® EG 1, grey approx. DB 702 or 703 respectively, material no. 687.12/13, white
Icosit® EG 4, metallic shades, material no. 687.30-687.74
Icosit® EG 5, RAL colour shades

Colour

See price-list or colour shade card respectively.
Slight colour shade deviations of the mentioned colour shades are unavoidable due to the raw material characteristics.



Packaging	Icosit® EG-Phosphate: 30, 15 and 3 kg net Icosit® EG 1: 30, 15 and 3 kg net Icosit® EG 4: 30, 12,5 and 3 kg net. Icosit® EG 5: 30, 10 and 3 kg net Thinner EG: 25, 10 and 3 ltr Friazinc® R: 26, 15 and 7 kg net.
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Storage Condition	Store in original sealed containers in a dry and cool environment between 5°C and 35°C away from direct sunlight.
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Shelf life	Friazinc® R: minimum 1 year, Icosit® EG-Phosphate, Icosit® EG 1: minimum 3 years, Icosit® EG 4, Icosit® EG 5: minimum 2 years, from production date if stored in original unopened containers.
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Technical Data

Mixing ratio in parts by weight (components A:B)	Icosit® EG-Phosphate:	90 : 10
	Icosit® EG 1:	90 : 10
	Icosit® EG 4:	92 : 8
	Icosit® EG 5:	90 : 10
	Friazinc® R:	94 : 6

Density (25°C)	Icosit® EG-Phosphate:	approx.1.6 kg/lt
	Icosit® EG 1:	approx.1.6 kg/lt
	Icosit® EG 4:	approx.1.4 kg/lt
	Icosit® EG 5:	approx.1.3 kg/lt
	Friazinc® R:	approx.2.8 kg/lt

Solid content (approximate)		by volume	by weight
	Icosit® EG-Phosphate:	62%	80%
	Icosit® EG 1:	65%	82%
	Icosit® EG 4:	55%	70%
	Icosit® EG 5:	57%	71%
	Friazinc® R	67%	90%

Pot life	Icosit® EG-Phosphate, Icosit® EG 1 and Friazinc® R:
	at + 10°C approx. 12 hours
	at + 20°C approx. 8 hours
	at + 30°C approx. 5 hours
	Icosit® EG 4 and Icosit® EG 5:
	at + 10°C approx. 7 hours
	at + 20°C approx. 5 hours
at + 30°C approx. 4 hours.	

Drying grade 6 according to DIN 53 150

Product	dry film thickness	+ 5° C after	+ 23° C after	+ 40° C after	+ 80° C after
Friazinc® R	60 microns	1 hour	30 min	20 min	5 min
Icosit® EG-Phosphate	80 microns	10 hours	3.5 hours	25 min	15 min
Icosit® EG 1:	80 microns	12 hours	6 hours	75 min	20 min
Icosit® EG 4:	80 microns	19 hours	12 hours	90 min	20 min
Icosit® EG 5	80 microns	21 hours	14 hours	3 hours	45 min

Coating system

Steel:

3-coat system;

1x **Icosit® EG-Phosphate** or:

1x **Friazinc® R**

1x **Icosit® EG 1**

1x **Icosit® EG 4** or 1x **Icosit® EG 5**

4-coat system for extreme exposure;

1x **Icosit® EG-Phosphate** or:

1x **Friazinc® R**

2x **Icosit® EG 1**

1x **Icosit® EG 4** or 1x **Icosit® EG 5**

In case of permanent submersion or exposure to condensation, prime with Friazinc® R only.

Galvanized surfaces and aluminium:

1x **Icosit® EG 1**

1x **Icosit® EG 4** or 1x **Icosit® EG 5**

When applying light colour shades of **Icosit® EG 5** a second coat may become necessary to achieve perfect opacity.

Consumption

Product	Theoretical layer thickness with a consumption of 100gm/m ²		Theoretical consumption for medium dry film thickness of	
	Wet microns	Dry microns	microns	Approx kg/m ²
Icosit® EG-Phosphate	61	38	20 80	0.050 0.210
Icosit® EG 1	62	40	80	0.200
Icosit® EG 4	72	40	80	0.200
Icosit® EG 5	78	44	60 80*	0.135 0.180
Friazinc® R			60 80**	0.250 0.340

*) In case of high air humidity CO₂ bubbles may occur.

**) when spraying

Apart from small areas the dry film thickness of Friazinc R should not exceed 150 microns per layer.

With the grades Icosit EG-Phosphate and Icosit EG 1 up to 120 microns dry film thickness per coat can be achieved by spray.

Resistance

Chemical influences:

The **Icosit® EG-System** is resistant to weather, water, sewage, seawater, flue gas, deicing salts, acid and lye vapours, oils, fats and short term exposure to fuels and solvents.

Temperature: Depends on primer used.

Icosit® EG-Phosphate:

Dry heat up to + 100°C, short term up to + 150°C.

Friazinc® R:

Dry heat up to + 150°C, short term up to + 180°C; damp heat up to approx. + 50°C.

Test report available. In case of higher temperatures please consult the Sika Technical Services Department.

Application

Surface preparation

Steel:

Blast cleaning to Sa 2½ according to ISO 12 944, part 4, free of dirt, oil and grease.

Galvanized surfaces and aluminium:

Free of oil, grease and zinc salts.

In case of permanent submersion and condensation, surfaces should be lightly whip blasted.

Mixing

All grades are pre-batched in two components. Stir base component well; add the hardener and mix thoroughly with an electric stirrer (400-600 rpm). Take care to stir well at the bottom and the wall of the tin.

When using **Icosit® EG-Phosphate** as a weldable shop primer, add approx. 20% by weight Thinner EG and do not exceed 20 microns dry film thickness.

Application	<p>The method of application has got a major effect on achieving uniform thickness and appearance. Spray application will usually give the best results. The indicated dry-film thickness is easily achieved by airless spray and usually also achievable by brush. Adding solvents reduces the sag resistance and the dry-film thickness. In case of application by roller, sometimes also by brush, additional applications may become necessary to achieve the required coating thickness, depending on type of construction, site conditions, colour shade etc. Before starting major coating operations, it may be useful to check with a test application on site whether the selected application method with the specified product will provide the requested results.</p> <p><u>Brush or roller:</u> In order to achieve an attractive appearance, it is recommended, in case of coatings containing micaceous iron oxide, to spray apply the last top coat or to brush or roller in one direction only to avoid streaking.</p>
	<p><u>Spraying:</u> High pressure spraying - nozzle with a bore of 1,5-2,5 mm, pressure 3-5 bar. It is necessary to use an oil and water trap. If necessary, 5% by weight Thinner EG may be added.</p> <p><u>Airless Spraying:</u> Spray pressure in the gun at least 180 bar; nozzle with a bore of 0,38-0,53 mm, spray angle 40-80°.</p>
Application temperature (material and substrate)	<p>Minimum + 5°C Maximum +35°C In case of temperatures below + 15°C an addition of 3–5% by weight Thinner EG may become necessary to adjust the viscosity.</p>
Waiting Times	<p>Minimum 1 day at + 20°C. Between Friazinc® R and Icosit® EG 1: minimum 4 hours. Prior to next application, remove all contamination. Maximum 4 years. In case of longer waiting times contact Sika's Technical Services Department</p>
Final drying time	<p>Full curing is achieved within 1-2 weeks, depending on layer thickness and temperature. Tests of the completed coat should not be carried out until complete curing has taken place.</p>
Cleaning of implements	<p>Clean all tools and equipment immediately after use with Thinner EG. Once hardened, the material can only be removed mechanically.</p>
Notes	<p>All technical data stated in this Product Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.</p>
Safety	<p>For information and advice on the safe handling, storage and disposal of chemical products, users should refer to the most recent Material Safety Data Sheet containing physical, ecological, toxicological and other safety-related data.</p>

Legal Notes

The information, and, in particular, the recommendations relating to the application and end-use of Sika products, are given in good faith based on Sika's current knowledge and experience of the products when properly stored, handled and applied under normal conditions in accordance with Sika's 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. Sika 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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