Construction

Technical Data-Sheet
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DS-Code: E1618

Icosit® EG-System Rapid

Fast curing epoxy resins + polyurethane

Product description	Icosit EG Phosphate Rapid: 2-component fast curing primer coat based on epoxy resin containing zincphosphate as an active pigment. Icosit EG 1 Rapid: 2-component intermediate coat based on an epoxy resin containing micaceous iron oxide By adding 1% b.w. Icosit PUR Accelerator (see technical data sheet for more information) a faster touch-drying and full curing will be achieved.
Fields of application:	Robust corrosion protection for steel providing a durable and decorative effect. The system is especially for the use at low temperature and workshop application. 3 applications per day can be achieved.
Properties:	The coating system combines the excellent corrosion protection abilities of epoxy resins in primer and intermediate coats as well as of polyureathanes in top coats. ■ **Fast overcoatable** ■ **Up to 3 layers per day** ■ **Tough elastic and dense but not brittling** ■ **Shock and impact resistant** ■ **Very fast curing** ■ **Applicable at low temperatures** ■ **Temperature resistant up to 150°C.**

Product data

Grades and colour shades:

Icosit EG Phosphate Rapid: Red oxide
Icosit EG 1 Rapid: DB 702

Because of the raw materials used, slight batch to batch colour variations are unavoidable.

Packaging:

Icosit EG Phosphate Rapid: 28.5 kg net.
Icosit EG 1 Rapid: 28.5 kg and 14.25 kg

Shelf life:

In originally sealed containers in a cool and dry environment:

Friazinc R Rapid:	1 year
Icosit EG Phosphate Rapid:	3 years
Icosit EG 1 Rapid:	3 years
Icosit EG 4, Icosit EG 5:	2 years

Systems

Coating systems:

Steel:
3-coat system
1 x Icosit EG Phosphate Rapid or 1 x Friazinc R Rapid
1 x Icosit EG 1 Rapid
1 x Icosit EG 4 or Icosit EG 5

4-coat system for extreme exposure
1 x Icosit EG Phosphate Rapid or 1 x Friazinc R Rapid
2 x Icosit EG 1 Rapid
1 x Icosit EG 4 or Icosit EG 5

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

Galvanized surfaces and aluminium:
1x Icosit EG 1 Rapid
1x Icosit EG 4 or Icosit EG 5

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

Surface Preparation:

Steel:
Blast cleaning to Sa 2½ according to EN ISO 12944, part 4, free from dirt, oil and grease.

Galvanized surfaces and aluminium:
Free of oil, grease and corrosion products. In case of permanent submersion and exposure to condensation surfaces should be sweep blasted.

Technical data

Material consumption:

	Specific gravity liquid	Solids content approx. %		Theoretical thickness with 100 g/m² consumption		Material-consumption for medium dry film thickness of	
	approx. kg/L	by vol.	by weight	wet microns	dry microns	microns	approx. kg/m²
Icosit EG Phosphate Rapid	1,6	57	79	63	36	80	0,225
Icosit EG 1 Rapid	1,6	56	77	63	35	80	0,230
Icosit EG 4	1,4	55	70	71	39	80	0,205
Icosit EG 5	1,3	59	72	77	45	60 80*)	0,135 0,175
Friazinc R Rapid	2,8	63	88	36	23	60 80**)	0,265 0,355

*) In case of high air humidity CO_2-bubbles may occur.

**) For spray application:
Apart from small areas the dry film thickness of Friazinc R Rapid should not exceed 150 microns per layer.

With Icosit EG Phosphate Rapid and Icosit EG 1 Rapid up to 120 microns dry film thickness per application can be achieved by spray.

Mixing ratio in parts by weight:
(Components A : B)

Icosit EG Phosphate Rapid:	94,7 : 5,3
Icosit EG 1 Rapid:	94,7 : 5,3
Icosit EG 4:	92 : 8
Icosit EG 5:	90 : 10
Friazinc R Rapid:	94 : 6

Resistance:

Chemical influences:
The Icosit EG-System Rapid is resistant to weather, water, sewage, seawater, smoke, deicing salts, acid and lye vapours, oils, grease and short term exposure to fuels and solvents.

Temperature:
Depending on the used primer coat:

Icosit EG Phosphate Rapid:	Dry heat up to + 100 °C, short term up to + 150 °C
Friazinc R Rapid:	Dry heat up to + 150 °C, short term up to + 180 °C damp heat up to approx. + 50 °C

In case of higher temperatures please consult Sika.

Hints on application

Preparation of material:

Stir component A very thoroughly using an electric stirrer. Add component B and mix both components very thoroughly (including sides and bottom of the container).

Application method:

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 and by brush. 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:
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 roll on in one direction only to avoid streaking.

Conventional high pressure spraying:
nozzle size 1,5 – 2,5 mm; pressure 3 – 5 bar, use of oil an water trap is compulsory
up to max. 5% thinner EG may be added.

Airless-spraying:
With a spray pressure in gun of min. 180 bar;
nozzle size 0,38 – 0,53 mm (0,015 – 0,021 inch); spraying angle 40° - 80°

Application temperature:

material: min. 0°C
surface: min. - 10°C, Icosit EG 4/5 plus 1% b.w. Icosit PUR Accelerator min. 0°C

At temperatures below + 15°C addition of max. 5% Thinner EG may become necessary to correct the viscosity.

Potlife:

Icosit EG Phosphate Rapid, Icosit EG 1 Rapid and Friazinc R Rapid:
at + 10°C approx. 8 hours
at + 20°C approx. 5 hours
at + 30°C approx. 2 hours

Icosit EG 4 and Icosit EG 5 (plus 1% b.w. Icosit PUR Accelerator):
at + 10°C approx. 5 hours
at + 20°C approx. 3 hours
at + 30°C approx. 2 hours

Drying degree 6 (DIN 53150):

Product	Dry film thickness	0°C after	+10°C after	+20°C after
Friazinc R Rapid	80 µm	4 h	1 h	30 min
Icosit EG Phosphate Rapid	80 µm	10 h	4 h	1½ h
Icosit EG 1 Rapid	80 µm	12 h	5 h	3 h
Icosit EG 4 *)	80 µm	48 h	12 h	4 h
Icosit EG 5 *)	80 µm	48 h	13 h	5 h

*) accelerated with 1% b.w. Icosit PUR Accelerator

Waiting time between coats:

Min.: until drying degree 6 is achieved
Max.: 1 year

In case of longer waiting times please contact Sika.

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.

Cleaning of implements:

Thinner EG
Friazinc R Rapid: Thinner K

Important notice

Directive 2004/42/CE (Decopaint):

For product category IIA / j, Type SB, the maximum permissible content of VOC as per directive 2004/42/CE is 500 g/litre (limit 2010).

The maximum content of Icosit EG Phosphate Rapid, Friazinc R Rapid, Icosit EG 1 Rapid and Icosit EG 5 remains below 500 g/litre VOC".

For product category IIA / j, Type SB, the maximum permissible content of VOC as per directive 2004/42/CE is 550 g/litre (limit 2007).

The maximum content of Icosit EG 4 remains below 550 g/litre VOC".

Value Base

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.

Local Restrictions

Please note that as a result of specific local regulations the performance of this product may vary from country to country. Please consult the local Product Data Sheet for the exact description of the application fields.

Health and Safety Information

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.

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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