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# SigaCoat 111

2-C-EP-corrosion protection coating

**Description:**

2-component epoxy coating with **SIGAS-bionic technology**

**Characteristics:**

- VOC < 2 %, free of heavy metals, benzyl alcohol, coal tar, anthracene oil and plasticizers
- approved and listed by the BAW / system 5 and 8 Im1, Im2 and Im3 – corrosivity category C5-M
  - approved in acc. with NORSOK M-501, Rev. 6
  - excellent corrosion protection
  - suitable for cathodic protection systems
  - Germanischer Lloyd - Confirmation
  - excellent adhesion strength
  - high chemical resistance
  - very high abrasion resistance
  - no shrinkage by migration of plasticizer
  - inert and harmless once cured

**Application:**

**SigaCoat 111** is a high abrasion resistant coating which is especially suitable as corrosion protection of steel constructions for hydraulic engineering, e.g. flood gates, steel sheet piles and weir plants. **SigaCoat 111** can be applied on concrete surfaces as well as on steel surfaces. **SigaCoat 111** is used as highly mechanical and chemical resistant / hard-wearing coating that offers excellent anticorrosion properties. **SigaCoat 111** must be applied by using airless spray equipment (with a flow heater if required) and is suitable for high-build application in one coat; multiple application is also possible. Due to the special formulation a primer is not required. In case of need, (tender) it is possible to apply the zinc primer **SigaPox 415**.

**N/B:** The included bionic components form a microfilm on the surface, which can lead to a whitish bloom in combination with moisture. In case of a higher demand to colour stability we recommend to use a topcoat.

**Layer thickness:**

approx. 600 - 1200 microns / depending on the object

**Consumption:**

theoretical: approx. 1 kg/m<sup>2</sup> at 600 microns DFT  
 practical: approx. 1.3 kg/m<sup>2</sup> at 600 microns DFT

The information relating to practical consumption / coverage is calculated to include 30 % loss. The practical consumption / coverage depends on the conditions of the substrate. We recommend applying a test area.

**Resistant to:**

- industrial and marine conditions
- water, seawater, brackish water
- mineral oil, aliphatic hydrocarbons
- wet heat up to +50°C (please consult us)
- neutral salt solutions
- diluted acids
- oil, fat, lubricants and fuels
- dry heat up to +100°C

**Technical data:**

Mixing ratio A : B	10 : 1 by weight resp. 6 : 1 by volume
Density (23°C)	approx. 1.60 g/cm <sup>3</sup>
Volume solids	approx. 100 %
Viscosity (23°C)	approx. 3500 mPa·s ± 500

**Details for application:**

Pot life (20°C / 23°C / 30°C)	approx. 40 minutes / 30 minutes / 20 minutes	
Substrate temperature	minimum 10°C up to maximum 40°C	
Material temperature (flow heater if required)	20°C - 30°C	
Maximum relative humidity of air	85 %	
Dew point - substrate temperature	minimum +3°C above dew point	
Duration to overcoat with itself "wet to wet" approx. after 15 minutes (with regard to the maximum layer thickness)	10°C: 7 - 48 hours 23°C: 4 - 24 hours 30°C: 2 - 12 hours *see note / overcoat	max. 3 months* max. 3 months* max. 3 months*
Curing time / foot traffic (10°C / 23°C / 30°C)	24 hours / 12 hours / 6 hours	
Curing time / mech. resistance (10°C / 23°C / 30°C)	48 hours / 24 hours / 12 hours	
Curing time / chem. resistance (10°C / 23°C / 30°C)	7 days / 5 days / 3 days	
All above values are approximate and may be used as a guideline for specifications		

**Clean up machine:**

To clean and flush the spray equipment / machine we recommend using **SigaCoat 111 SOL** - cleaner with a temperature of approx. 30 - 40°C.

**Packaging:**

16.5 kg - pails (15 kg component A + 1.5 kg component B), other pails are available on request

**Colour:**

silk grey, dusty grey (other colours are available on request)  
 - due to raw material variations and manufacturing techniques, a slight colour / batch difference may occur -

**Storage:**

12 months, unopened in original drums under dry conditions and a temperature of 15 - 25°C. At temperatures < 10°C crystallisation is possible. Please consult us.

## 1. Surface preparation

The surface that is to be coated (steel or concrete) must be dry and free of mill scale, debris, grease, fat, oil, dust, areas of corrosion / rust as well as other contaminants which may impair the adhesion. Surface preparation by blast cleaning (with tough grit) preparation grade Sa 2½. Prior to, during and after surface preparation, application and curing the substrate temperature must be minimum +3°C / 3K above the dew point (see dew point table). In case of doubt the surface cleanliness must be measured regarding soluble contaminants prior to coating.

## 2. Preparation of material

### Airless spray resp. brush / roller

The temperature of the components must be at least 20°C. Stir the components thoroughly and mix in the correct ratio using a suitable low speed electric mixer (300 - 400 rpm) for at least 3 minutes or until a completely homogeneous mixture has been achieved. Put the mixed material into a clean container and mix again for at least 1 minute more.

## 3. Application method (use without thinner!)

### **Airless spray**

Efficient airless spray equipment

Pressure ratio: minimum 1 : 68

Spray hose: approx. 30 m ¾" + 2 m ¼"

Inlet pressure: 4 - 7 bar

Nozzle size: 0.43 - 0.64 mm (0.017" up to 0.025")

Spraying angle: 30 - 80°

We recommend to remove the high pressure filters and to pump the material directly without a siphon tube

### **Brush / roller**

Recommended for small areas, repairs or to precoat edges, only. Repeat the coats until sufficient film thickness is obtained. Normally a film thickness of 250 - 300 microns per coat can be obtained by this method.

**Attention!** To ensure a proper application at low temperatures a hose insulation and a flow heater have to be used.

**N/B:** At low temperatures it is necessary to use insulated hoses and a flow heater! Please use a plural component airless spray equipment, if a longer spray hose distance (> 30 m) and an independent application time / pot life is required.

## 4. Resistance

### **Mechanical**

- impact resistant
- high abrasion resistant

### **Thermal**

- dry heat up to +100°C continuously, short-term up to +150°C
- wet heat up to +50°C continuously, short-term up to +70°C

### **Chemical**

- industrial and marine conditions
- water, seawater, brackish water
- oil, fat, lubricants and fuels
- diluted acids, alkalis

- neutral salt solutions

Due to the fact that the resistance of the coating can be affected by various factors (medium, temperature, concentration, layer thickness, etc.) we recommend consulting us prior to application.

**\*Note / overcoat:** 3 months have been realised at the laboratory. Surfaces which have been exposed to weathering must be prepared by qualified equipment.

## 5. Health and safety:

### **GISCODE: RE 1**

While **SigaCoat 111** is a (nearly) solvent free coating, it is common practice when used in enclosed areas to circulate the air during and after the application until the coating is cured. The ventilation system should be capable of preventing any solvent vapour concentration from reaching the lower explosion limit for any solvents that may be present. Avoid inhalation of the vapours. Wear suitable protective clothing, gloves, eye / face protection and suitable respiratory equipment. Adequate ventilation of the working areas is recommended. After contact with skin, wash immediately with plenty of water and soap. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. When using do not eat, drink, smoke and keep away from sources of ignition. For additional references to safety-hazard warnings, regulations regarding the transport and waste management please refer to the relevant Safety Data Sheet.

**SigaCoat 111;** 0.00/18.11.2017. All information contained herein is based on the current state of our knowledge and practical experience at the time of release. Therefore, please make sure that this is the actual edition of the Technical Data Sheet. All data are only intended as a guideline for informational purposes and do not constitute a legally-binding warranty of the suitability for a certain purpose of use, due to its dependence on site conditions and possible processing, use and applications. All information contained in this technical datasheet is subject to change without notice.

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