BUILDING TRUST

PRODUCT DATA SHEET

# SikaCor®-299 Airless

Highly resistant coating for steel and concrete protection based on epoxy resin

Made in Germany

## DESCRIPTION

Especially mechanically and chemically resistant, 2-pack coating based on epoxy resin with low solvent content.

## USES

SikaCor®-299 Airless may only be used by experienced professionals.

SikaCor®-299 Airless is used for protection of steel surfaces exposed to heavy mechanical and chemical wear. Especially suitable for the interior coating of silos, tanks, pipelines and vessels in:

- chemical industry
- wastewater industry
- waste disposal management
- food industry

Also used for corrosion protection of hydraulic steel structures.

## CHARACTERISTICS / ADVANTAGES

- Abrasion and impact resistant
- Excellent chemical resistance
- Suitable for cathodic protection systems
- Quick mechanical exposure
- Tough hard and scratch resistant
- High-build application

## APPROVALS / CERTIFICATES

- Approved and listed by the Federal Institution for Hydraulik Engineering (BAW).
- The coating system is in compliance with the German rules of Foodstuff and Consumer Goods, certified by ISEGA
- Tested for crack bridging properties in accordance with "Approval principles for coating systems for concrete in LAU-plants"
- Coating based on epoxy resin for concrete protection accordung to EN 1504-2, DoP, with CE-mark

## PRODUCT INFORMATION

| | | |
|---|---|---|
| **Packaging** | SikaCor®-299 Airless | 14 kg net. |
| | SikaCor® Cleaner | 160 l and 25 l |
| **Appearance and colour** | Black, redbrown, approx. RAL 7032 and approx. RAL 9002. | |
| **Shelf life** | Min. 1 year | |
| **Storage conditions** | In originally sealed containers in a cool and dry environment. | |
| **Density** | ~1.45 kg/l | |
| **Solid content** | ~90 % by volume<br>~94 % by weight | |

## TECHNICAL INFORMATION

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|---|---|
| **Mechanical resistance** | Abrasion resistant, tough-hard, impact resistant. |
| **Chemical resistance** | Resistant to water, saltwater, sewage, diluted organic and anorganic acids, lyes, salts, detergents, beer, wine, fruitjuice, oil, fat.<br>Not permanently resistant to phenol, formic acid and acetic acid at higher concentration. |
| **Temperature resistance** | Dry heat up to approx. + 100°C<br>Damp heat up to approx. + 80°C<br>Not resistant to hot water in case of significant temperature gradient ("cold wall effect"). |

## SYSTEM INFORMATION

**System**

**Steel:**
2 x SikaCor®-299 Airless
Please observe max. waiting times between coats.
In contact with food:
200 µm nominal dry film thickness per application.
Hydraulic steel structures, chemical exposure:
250 µm nominal dry film thickness per application.

**Concrete:**
2 x SikaCor®-299 Airless on PCC, ECC or PC (600 - 800 g/m² per application)
Consumption should not exceed 600 - 800 g/m² per application beside small areas.
Crack bridging coating composition
Compostion for Approval principles for LAU-plants
- Icoment-520 scratch coat 1200g/m²
- Icoment-520 fine mortar 1800g/m²
- Embedding layer SikaCor-299 Airless 850g/m²
- Sika Betonol special fabric 300g/m²
- SikaCor-299 Airless topcoat 850g/m²
- SikaCor EG-5 sealing topcoat *) 100g/m²

*) The topcoat is not mandatory for crack bridging
Sagging resistance may vary on temperature and can be optimized by addition of 2 to 5 weight-% Extender T calculated on mixture.

## APPLICATION INFORMATION

**Mixing ratio**

| | Components A : B |
|---|---|
| By weight | 80 : 20 |

**Consumption**

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

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| Dry film thickness | 200 µm |
| Wet film thickness | 225 µm |
| Consumption | 0.320 kg/m² |
| Coverage | 3.10 m²/kg |

Apart from small areas the dry film thickness should not exceed 300 µm per coat when in contact with liquids or foodstuffs.

**Material temperature**

Min. + 10 °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.

**Surface temperature**

Min. +10°C

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| **Pot Life** | At + 20°C | ~45 min |
| | At + 40°C | ~15 min |

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|---|---|---|---|
| **Drying stage 6** | **At + 20°C** | **Dry film thickness 200 µm** | (ISO 9117-5) |
| | Tack-free | ~5 h | |
| | Touchdry | ~12 h | |
| | Walkable | ~24 h | |
| | Mechanical resistant | ~72 h | |

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| **Waiting time to overcoating** | Min. | 12 hours at + 20°C |
| | Max. | 4 days at + 20°C |
| | Max. | 6 days at + 10°C |
| | In case of longer waiting times the surface must be activated by grinding or sweep blasting. | |

**Drying time**

**Final drying time**
At + 20°C surface temperature and adequate ventilation: approx. 7 days. Contact with foodstuffs only after the applied coating is fully cured to avoid contamination.

## 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

### SUBSTRATE PREPARATION

Concrete:
The surface areas to be coated must meet recognised building standards, i.e. be solid, load-bearing and free from contaminants detrimental to adhesion. Pull-off adhesion strength in accordance with DIN 1048 should be > 1.5 N/mm² on average with the lowest reading no less than 1.0 N/mm². For areas subject to heavy mechanical loading, the average value should be > 2.0 N/mm² and the lowest reading no less than 1.5 N/mm². Apply suitable compatible undercoats and observe recommended overcoating intervals.

### SURFACE PREPARATION

Steel:
Blast cleaning to Sa 2 ½ according to ISO 12944, part 4.
Free from dirt, oil and grease.
Average roughness depth $R_z \geq 50$ µm.

### 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:
- A dry film thickness of 150 - 200 µm per coat is possible

Airless-spraying:
- Pressure min. 200 bar
- Free flow of at least 10 l/min
- Diameter of hoses min. 8 mm (⅜ inch)
- Nozzle size 0.48 - 0.58 mm (0.019 - 0.023 inch)
- Spraying angle 40° - 80°
- Temperature of material and equipment at least + 20°C. At low temperatures the use of a flow heater is recommended.

**Do not thin SikaCor®-299 Airless!**

### CLEANING OF EQUIPMENT

SikaCor® Cleaner

## 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 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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