

PRODUCT INFORMATION

COROFLAKE C

PRODUCT DESCRIPTION

COROFLAKE C is a two-component, graphite filled polymer coating based on a chemical and thermal resistant Novolac vinyl ester resin. **COROFLAKE C** achieves good electrical conductivity combined with good chemical and thermal resistance by using graphite flakes. The parallel to the substrate oriented graphite flakes provide an excellent diffusion barrier and thus ensure a long service life.

COATING LAYERS CONSUMPTION

The coating system consists of the two-component conductive **COROFLAKE N PRIMER AS** and generally two coats of the two-component **COROFLAKE C** topcoat applied at approx. 500 - 700 µm DFT per coat. The total applied DFT is based on the chemical and thermal load present and can be up to 2.0 mm.

FIELDS OF APPLICATION

Due to the special fillers, **COROFLAKE C** is electrically conductive and can therefore be applied in ex-proofed zones, ex-proofed facilities and wherever an electrically conductive coating is required. **COROFLAKE C** does not contain silica based fillers and can withstand strong alkaline loads such as in caustic soda (sodium hydroxide) storage tanks. Furthermore **COROFLAKE C** can be used as a conductive topcoat for the systems **COROFLAKE 23**, **COROFLAKE 24**, **COROFLAKE 28** and **COROFLAKE 29**.

FEATURES

- Excellent chemical resistance to inorganic acids, aliphatic and aromatic solvents and especially to hydrofluoric acid and lye
- Electrically conductive
- Non-sparking
- Excellent permeation resistance
- Application by spraying, brushing or rolling
- Can be exposed to process conditions shortly after application

CHEMICAL RESISTANCE

Information on the chemical resistance properties is available upon request.

SUBSTRATE

Substrates are steel components. Components to be coated shall be designed and manufactured in accordance with EN 14879-1.

SURFACE PRE-TREATMENT

Surfaces to be coated must be clean, dry and free of contaminants. All contaminants, including non-visible detectable contaminants, must be removed in accordance with DIN TR 55684 and EN ISO 8502.

Non-alloyed steel surfaces shall be abrasive blasted to "Near White Metal" in accordance with EN ISO 12944-4. A surface preparation degree of SA 2½ (SSPC-SP 10; NACE No. 2) as specified in EN ISO 8501-1 and a "medium (G)" roughness degree as specified in EN ISO 8503-2 must be achieved. A minimum surface profile of $R_z \geq 70 \mu\text{m}$ is required.

To prevent flash rust, the primer must be applied immediately after the blasting and cleaning of the substrate or the component must be air conditioned to a relative humidity of $\leq 40\%$.

ENVIRONMENTAL CONDITIONS

Throughout the coating process, the temperatures of the substrate and coating materials shall be maintained within the range specified by TIP TOP. All surfaces shall be maintained at a temperature at least 3K above the dew point in order to prevent condensation.

APPLICATION

During the application of the product, the application instruction must always be observed.

COROFLAKE N PRIMER AS and each **COROFLAKE C** topcoat are applied to the substrate using an airless air spray system or by rolling or brushing.

In case **COROFLAKE C** is applied by brushing or rolling, additional coats may be required to achieve the required total DFT. Grinded surfaces must generally be cleaned with **SOLVENT F12**.

Note: During application, the lined surface should be shaded from direct or indirect sunlight whenever possible.

MIXING RATIO

The primer and coating components are supplied in pre-measured units so that weighing or measuring of the components is kept to a minimum. After the unit has been mixed it shall be used within the specified pot life.

Primer	Parts by Weight	Parts by Volume
COROFLAKE N PRIMER AS	100	100
COROFLAKE ACCELERATOR NO. 1	1 - 2	1.1 - 2.1
HARDENER No. 1 CLEAR	2	2
Coating	Parts by Weight	Parts by Volume
COROFLAKE C	100	100
HARDENER No. 1 CLEAR	2	2.3

CONSUMPTION PER COAT

Product	Thickness [µm]	Coverage [g/m²]
COROFLAKE N PRIMER AS	covering	ca. 150
COROFLAKE C	ca. 500 - 700	ca. 900 - 1100

The information about coverage is an average for spray applications. Actual coverage depends on the object geometry and the method of application. It can vary.

POT LIFE / WORKING TIME [min]

Product	15°C	20°C	30°C
COROFLAKE N PRIMER AS	ca. 60	ca. 35	ca. 10
COROFLAKE C	ca. 60	ca. 45	ca. 20

COROFLAKE C

RECOAT TIME (20°C)

Product	Min. [h]	Max. [Days]
COROFLAKE N PRIMER AS	ca. 4	ca. 14
COROFLAKE C	ca. 4	ca. 3

CLEANING

Clean all equipment with **SOLVENT T-200** immediately after use. Frequency of cleaning will depend upon amount applied, temperature and elapsed time, including any delays.

SAFETY MEASURES

The material safety data sheets of the individual components, the safety instructions on the packing (label) as well as the legal requirements for handling hazardous materials must be observed.

PACKING UNITS

The products are supplied in the following standard package sizes:

Product	Size	Article No.
COROFLAKE ACCELERATOR NO. 1	0.4 kg	590 2985
COROFLAKE C	5 kg	590 0772
COROFLAKE C	20 kg	590 0758
COROFLAKE N PRIMER AS	5 kg	590 2983
COROFLAKE N PRIMER AS	20 kg	590 2990
HARDENER No. 1 CLEAR	0.1 kg	590 0181
HARDENER No. 1 CLEAR	0.4 kg	590 0019
SOLVENT F12	4 kg	590 0095
SOLVENT T-200	4 kg	590 0610
SOLVENT T-200	8 kg	590 0611

STORAGE

The products must be stored in a cool and dry place, away from direct sunlight. At the specified storage temperatures a shelf life of the products is given of at least for the following periods:

Product	Temperature	Shelf Life
COROFLAKE ACCELERATOR NO. 1	5 - 20°C	6 Months
COROFLAKE C	5 - 20°C	3 Months
COROFLAKE N PRIMER AS	5 - 20°C	6 Months
HARDENER No. 1 CLEAR	5 - 20°C	12 Months
SOLVENT F12	5 - 20°C	12 Months
SOLVENT T-200	5 - 25°C	60 Months

If the storage time is exceeded, the materials must be tested before use. Higher storage and transport temperatures will reduce the shelf life. The containers must be kept tightly closed. Liquid products must be stored frost-proof. In addition, the DIN 7716 must be observed.

Technical Data	Standard	Unit	Value
Abrasion	ASTM D4060	mg	70
Dissipating Resistance (on earth)	EN 1081	Ω	< 10 ⁶
Density (Mixture)	EN ISO 2811 (ASTM D1475)	g/cm ³	1.20 ± 0.04
Modulus of Elasticity (Bend Test)	EN ISO 178 (ASTM D790)	N/mm ²	4000 ± 500
Hardness Shore D	DIN ISO 48-4 (ASTM D2240)	-	≥ 70
Min. Adhesion Strength Steel	EN ISO 4624 (ASTM D4541)	N/mm ²	4
Viscosity	EN ISO 2555 (ASTM D2196)	mPa·s	3100 ± 300
Linear Coefficient of Thermal Expansion	ISO 11359-2 (ASTM C531)	1/K	30 x 10 ⁻⁶
Max. Operating Temperature Liquids	-	°C	+70
Max. Operating Temperature Dry (Flue Gas)	-	°C	+180

Note: The indicated temperatures are dependent on the present load and may vary

Information given in the fact sheet above corresponds to the current knowledge available to us regarding our products at the time of its drafting and is intended as a guideline for informational purposes. However, because of the multiple possibilities regarding possible applications, processing and on site conditions, any information given in the fact sheet above is not legally binding, in particular, without being limited to, such information shall not be interpreted as a warranty of merchantability or of fitness for a particular purpose. Customer therefore is advised to conduct its own testing or make an inquiry with our technical department before ordering. We reserve the right to change the product at any time, in particular, without being limited to, minor changes because of advancements in technology. If by way of exception, the information given in the fact sheet above is incorporated by reference into any contract concluded with us under German Law, such information, shall only be interpreted as determining the specific requirements of the contractual products as set out in § 434 BGB (German Civil Code) and shall not be interpreted as constituting a guarantee of condition.

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