

# Technical Data Sheet

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## ® KERAFLAKE 6H

### Synthetic resin coating for highly stressed steel surfaces

#### Description

KERAFLAKE 6H is a trowel-applied synthetic resin coating based on vinyl ester resin and contains glass flakes as barrier filler. The layer thickness adds up to approx. 2 mm.

#### Typical uses

KERAFLAKE 6H is recommended as surface protection for structural components and constructions made of steel that are continuously exposed to corrosive substances, also at higher temperature ranges.

The primary spectrum of application is coating for structural components in flue gas desulfurization plants as well as other flue gas cleaning systems, particularly raw gas and clean gas canals, chimneys and heat exchangers as well as tanks, absorption towers, pump over tanks and processing tanks in various industrial sectors, primarily in the chemical industry.

#### Properties

KERAFLAKE 6H exhibits excellent chemical resistance properties, a superior temperature stability as well as a very high diffusion impermeability.

The high degree of impermeability is achieved through the proportion of glass flakes composed of chemically resistant C-glass. When applying the coating the glass flakes (thickness 3 - 5 µm, diameter ≤ 3.2 mm) orient themselves parallel to the steel surface. For permeable substances such as water, oxygen or sulfur dioxide this process prolongs the migration distance meaning being equal to a multiplied coating thickness.

KERAFLAKE 6H is therefore particularly well-suited for structural components that are subjected to wet loads.

#### Chemical resistance

Information on the chemical resistance properties will be furnished on request.

#### Substrate

Steel structures shall comply with the requirements of DIN EN 14879-1.

#### Surface pretreatment

The steel surface shall be sandblasted to a metallic bright finish. A preparation degree of Sa 2 ½ as specified in DIN EN ISO 12944-4 and a roughness grade "medium (G)" as specified in ISO 8503-1 must be achieved; minimum surface roughness  $R_z = 70 \mu\text{m}$ . After blasting the surface shall be primed.

#### Application

KERAFLAKE 6H is composed of a two-component Primer, two Filler Layers (containing triple and double components) as well as a two-component Top Coat.

Mixing ratios	Parts by weight (kg)	Parts by volume (l)
<u>Primer</u>		
KCH VE solution 3	100	2.00
KCH UP hardener 1	2	0.04
<u>Filler Layer 1</u>		
KCH VE paste 1	100	2.00
KCH UP hardener 1	1.5	0.04
KCH pigment 1	0.5	0.02
<u>Filler Layer 2</u>		
KCH VE paste 1	100	2.00
KCH UP hardener 1	1.5	0.04
<u>Top Coat</u>		
KCH VE solution 5 green	100	2.00
KCH UP hardener 1	2	0.04

The Primer is applied by means of spreading or rolling followed by the application of the two Filler Layers using a smoothing blade which are then levelled out by means of rolling. The Top Coat is applied last by means of spreading or rolling. The total thickness should measure approx. 2 mm.

#### Pot life

Temperature	Primer	Filler Layers	Top Coat
15°C	~ 30 min.	~ 60 min.	~ 30 min.
20°C	~ 25 min.	~ 45 min.	~ 25 min.
30°C	~ 12 min.	~ 20 min.	~ 12 min.

**Coverage**

Primer:	approx. 0.35 kg/m <sup>2</sup>
Filler Layer 1	approx. 1.80 kg/m <sup>2</sup>
Filler Layer 2:	approx. 1.80 kg/m <sup>2</sup>
Top Coat:	approx. 0.20 kg/m <sup>2</sup>

Higher temperatures will shorten the shelf-life of this products. The packaging drums are to be kept tightly shut and are to be resealed each time material has been removed. All liquid products are to be stored frost-free.

**Packing**

The following standard quantities are available:

KCH VE solution 3	20 kg
KCH UP hardener 1	0.3, 0.4 kg
KCH VE paste 1	20 kg
KCH pigment 1	1 kg
KCH VE solution 5 green	20 kg

**Safety**

Adequate ventilation shall be provided during the execution of all work. Ventilation is compulsory for all work carried out in pits and closed rooms.

All vapours that are produced during processing must be continuously suctioned off at floor or bottom level.

Only such amount of material effectively required to continue work is to be stored at the working place. The instructions for the prevention of fire and explosion are to be observed if required.

**Storage**

The products shall be stored in a cool and dry place. With a storage temperature of 23°C the minimum shelf life is as follows:

KCH VE solution 3	3 months
KCH VE solution 3 < 15 °C	6 months
KCH UP hardener 1	6 months
KCH VE paste 1	3 months
KCH VE paste 1 < 15 °C	6 months
KCH pigment 1	24 months
KCH VE solution 5 green	3 months
KCH VE solution 5 green < 15 °C	6 months

Please note and ensure that even smallest quantities of the individual components and/or prepared mixtures are not allowed to reach the sewerage.

All regulations for the prevention of accidents stipulated by the employer's liability assurance association, the regulations for the prevention of accidents prescribed at the site of application and the TRGS 507 „Surface treatment in rooms and tanks“, as well as the safety precautions listed on the packing (label) required by the provisions of the Hazardous Materials Ordinance shall be adhered to. The operating instructions pursuant to § 14 GefStoffV as well as the EC safety data sheets are to be complied with.

Technical data	Test specification	Unit	Parameter
Density	DIN EN ISO 1183-1	g/cm <sup>3</sup>	1.5
Tensile strength	DIN EN ISO 527	MPa	40
Elongation at tear	DIN EN ISO 527	%	0.5
Flexural strength	DIN EN ISO 178	MPa	60
E-module (flexural test)	DIN EN ISO 178	MPa	9,000
Compressive strength	DIN 53454	MPa	80
Adhesiveness to steel	DIN EN 24624	MPa	> 4
Barcol-hardness	DIN EN 59		> 35
Dissipation resistivity (to ground)	DIN EN ISO 1081	Ω	> 10 <sup>9</sup>
Linear thermal expansion coefficient	DIN 53752	K <sup>-1</sup>	20 · 10 <sup>-6</sup>
Max. operational temperature, dry		°C	180

The technical data contained herein represents the current state of our product knowledge and is intended to furnish general information regarding our products and their application spectrum. In view of the diversity and multitude of application possibilities, this data should be regarded solely as general information, which does not guarantee any specific properties and/or suitability of these products for each concrete case of application. Consequently, when ordering a product, please contact us for detailed information relative to the properties required for a specific application. Our technical service will, upon request, furnish a profile of characteristics for the concrete application without delay.

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