

Technical Data Sheet

33.07.103E – 02/07

® KERABUTYL VC

Soft rubber lining to protect steel and concrete components with general construction regulation approval no. Z-59.22-31

On-site rubber lining

Description

KERABUTYL VC is a vulcanized two-ply soft rubber lining based on chlorobutyl rubber (CIIR) and PVC. The layer thickness may range between 3 and 5 mm depending on the requirement.

Typical uses

KERABUTYL VC is used to protect steel and concrete components from chemical attack. KERABUTYL VC linings are predominantly applied in hydrochloric pickling lines and hydrochloric acid storage tanks.

KERABUTYL VC has been awarded a general approval certificate by the DIBt (German Institute for Construction Engineering) according to the principles of construction and testing for being a suitable lining sheet for steel tanks used for storage of water endangering liquids.

Properties

Owing to its high resistance to hydrogen chloride KERABUTYL VC is suited best for use in case of severe stress caused by hydrochloric acid.

KERABUTYL VC further avails of the advantages vulcanised rubber sheets offer, like problem-free storage and transportation without cooling for at least 36 months as well as full resistance to stress immediately after application without extensive vulcanization measures being required.

Chemical resistance

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

Substrate

Steel and concrete components may serve as substrate.

The steel structures and concrete components to be rubber lined shall comply with the requirements of DIN EN 14879-1.

Surface pretreatment

Steel: The steel surface must be blasted to a metallic white finish.

A preparation degree of Sa 2 ½ as specified in DIN EN ISO 12944-4 and a roughness degree of "medium (G)" as specified in DIN EN ISO 8503-1 must be achieved; minimum roughness $R_z = 50 \mu\text{m}$ (Segment 2). After blasting, the steel surface must be primed.

Concrete: If required the concrete substrate must be treated by means of blasting in such a way that it is free from cement slurries, cement skin, loose and brittle particles, defects and separating substances. The residual moisture of the concrete surface shall be $< 4\%$.

Concrete substrates are provided with a conductive smoothing coat (thickness approx. 1 mm) of KERAPOX EP 221 to level unevenness' and to serve as counter pole for electrical tightness testing.

Application

KERABUTYL VC linings consist of the single-component Keratex primer, the three-component adhesive BS and the KERABUTYL VC sheeting.

Mixing ratios	Parts by weight (kg)	Parts by volume (l)
<u>Adhesive BS</u>		
Solution BS	100	2.00
Accelerator BS	9	0.12
Keratex hardener E	3.4	0.06

Spread the primer on the steel or concrete substrate (KERAPOX EP 221), then apply two layers of adhesive. Treat the rubber sheet with KCH cleaner 1 and brush it twice with adhesive.

The rubber sheets are firmly bonded to the substrate by rolling as specified in DIN 28055-1.

Pot life

Temperature	Adhesive BS
15 °C	~ 160 min
20 °C	~ 120min
30 °C	~ 55 min

Consumption

Keratex primer: approx. 0.15 kg/m²
 Adhesive BS: approx. 0.2 kg/m² per coat
 KCH cleaner 1: approx. 0.2 kg/m²

Packing

The following standard quantities are available:

Keratex primer 5. 16 kg
 Solution BS 5. 15 kg
 Accelerator BS 5. 25 kg
 Keratex hardener E 0.75 kg
 KCH cleaner 1 8.50 kg

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:

KERABUTYL VC sheet 36 months
 Keratex primer 12 months
 Solution BS 12 months
 Accelerator BS 12 months
 Keratex hardener E 12 months
 KCH cleaner 1 24 months

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 must be stored frost-free.

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.

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 top layer	DIN EN ISO 1183-1	g/cm ³	1.17 ± 0.02
Density bottom layer	DIN EN ISO 1183-1	g/cm ³	1.45 ± 0.02
Hardness	DIN 53505	Shore A	55 ± 5
Tensile strength*)	DIN 53504	MPa	≥ 3
Elongation at tear*)	DIN 53504	%	≥ 400
Peeling strength	DIN 28055-2	N/mm	≥ 3
Max. surface pressure		MPa	2
Max. operating temperature		°C	90

*) The values were determined at 4 mm thick rubber samples.

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.

KCG GROUP GmbH

P.O. Box 11 63, D-56425 Siershahn

Phone: +49 (0) 2623-600-0 / Fax: +49 (0) 2623-600-433 / eMail: info@kch-group.com

تلفن: ۰۴-۲۲۶۴۶۷۸۳ و ۰۱-۲۲۶۳۰۶۰۸

شرکت کسری نماینده رسمی KCH آلمان