

Technical Data Sheet

33.06.152E – 06/06

® VULCOFERRAN 2194

Hard rubber lining for the protection of steel components with general construction regulation approval no. Z-59.22-24
On-site and workshop rubber lining

Description

VULCOFERRAN 2194 is a graphite-filled hard rubber lining based on polyisoprene/styrene-butadiene rubber (IR/SBR) that may also be applied on site and vulcanized using hot water or steam. Depending on the requirements, the thickness of the rubber sheet may range between 3 and 6 mm.

Typical uses

VULCOFERRAN 2194 is recommended as a protective lining for structural components made of steel that are subjected to chemical exposure. Its primary spectrum of application includes the lining of flue gas scrubbers in garbage incineration plants, as well as storage tanks and reaction vessels that are operated at high temperature ranges.

VULCOFERRAN 2194 is DIBt-certified in accordance with the relevant construction codes and test standards and approved as a lining system for steel tanks utilised for the storage of water-polluting substances.

Properties

VULCOFERRAN 2194 is characterised by its excellent chemical resistance to alkaline and acidic media, with the exception of oxidising media.

Chemical resistance

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

Substrate

The substrate is steel. Structural components made of steel must meet the requirements specified in DIN EN 14879-1.

Surface pretreatment

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.

Stainless steel must be abrasive blasted with non-ferritic abrasives. Grey cast iron must be tempered in the autoclave prior to blast cleaning, in order to expel any inclusions of moisture.

Application

The VULCOFERRAN 2194-rubber lining system is composed of the single-component Primer 1, the single-component Primer 2, the single-component Vulkodurit adhesive LS3A and the VULCOFERRAN 2194 rubber sheet.

Spread the Primer1 and Primer 2 on the substrate and then apply two coats of the Vulkodurit adhesive LS3A. The rubber sheets are coated with diluted Vulkodurit LS3A adhesive compound and bonded to the substrate in accordance with the specifications contained in DIN 28055-1. A durable and solid bonding will be achieved by firmly pressing down the rubber sheet and the subsequent vulcanisation process.

Consumption

Primer 1	approx. 0.15 kg/m ²
Primer 2	approx. 0.20 kg/m ²
Vulkodurit adhesive LS3A	approx. 0.25 kg/m ² per coat
Kerabutyl cleaning agent	approx. 0.05 kg/m ²

Packing

The following standard quantities are available:

Primer 1	23 kg
Primer 2	25 kg
Vulkodurit adhesive LS3A	16, 170 kg
Kerabutyl cleaning agent	8 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:

VULCOFERRAN 2194 sheet	2 months
VULCOFERRAN 2194 sheet < 15°C	6 months
Primer 1	12 months
Primer 2	6 months
Vulkodurit adhesive LS3A	6 months
Kerabutyl cleaning agent	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	DIN EN ISO 1183-1	g/cm ³	1.29 ± 0.02
Hardness (Autoclave vulcanisation)	DIN 53505	Shore D	78 ± 5
Hardness (Hot water- /steam vulcanisation)	DIN 53505	Shore D	> 65
Tensile strength ^{*)}	DIN 53504	MPa	≥ 30
Elongation at tear ^{*)}	DIN 53504	%	> 2
Adhesive strength	DIN EN 24624	MPa	≥ 6
max. surface pressure		MPa	10
max. service temperature		°C	100

*) : 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.

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