

TI 153K

Technical Information Surface Protection Linings
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GENAKOR 022 R

Hard rubber lining to protect steel components

Base

Polyisoprene rubber (IR)

Material Group

On-site rubber lining

Description

Graphite-filled hard rubber lining based on polyisoprene rubber (IR) which can be applied on site and vulcanized with steam. Depending on the requirements, the layer thickness of the rubber sheet can be 3 - 5 mm.

Use

GENAKOR 022 R is recommended as a protective lining for structural components made of steel that are subjected to chemical exposure.

The primary fields of application include linings for reaction and process tanks that are operated at higher temperatures (125 °C), in particular for shell-and-tube heat exchangers and stainless steel linings.

Properties

GENAKOR 022 R is characterised by its excellent chemical resistance to alkaline and acidic media, as well as organic media. A particularly notable feature of this lining is its high diffusion resistance and outstanding mechanical properties.

GENAKOR 022 R can not be spark tested.

Physical Data

Property [unit], Test method	Value
Density [g/cm ³], DIN EN ISO 1183-1, ASTM D 792	1.4 ± 0.02
Tensile strength [MPa], DIN 53504	≥ 20
Adhesive strength [N/mm ²], DIN EN ISO 4624	≥ 6
max. surface pressure [MPa]	10
Temperature resistance [°C]	125
Elongation at tear [%], DIN EN ISO 527, ASTM C 307	> 2
Shore D hardness, DIN 53505, ASTM D 2240	78 ± 5 >65 (Steam / compressed air on site)
Data are mean values	

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

Chemical Resistance

Information on chemical resistance is available on request.

Substrate

Steel

Refer to DIN EN14879-1 as well as to STEULER-KCH-Formsheet 020 and 030.

The steel surface is to be blasted 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 DIN EN ISO 8503-1 must be achieved; minimum surface roughness $R_z = 50 \mu\text{m}$. After blasting, a new formation of rust is to be avoided by appropriate procedures, e. g. immediate application of a primer.

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.

The substrate temperature should be in the range of approx. 10 - 30 °C, dew point distance at least 5 K.

With object temperatures below +10 °C rubber lining work must not be carried out.

During application, the substrate must be kept absolutely dry. No moisture (condensate, mist, etc.) must get onto the material.

Packaging / Shelf life

All components must be stored and transported dry. Unless otherwise specified, the minimum shelf life applies to a storage temperature of 20 °C. Higher temperatures reduce, lower temperatures increase the minimum shelf life. The use of refrigerated containers should be considered on a project-by-project basis, especially when components are to be stored at temperatures below 20 °C in order to extend their shelf life. Keep the containers tightly closed (especially after material removal).

Component	Item number	Package	Content	Shelf life
Genakor-022-R-Sheet	6071604200–600	Roll		3 months < 15°C
Primer 1	5040271039	Hobbock	23 kg	12 Months
Primer 2	5040274001	Hobbock	25 kg	12 Months
Vulkodurit-Adhesive LS3A	5040253020	Hobbock	16 kg	6 Months
Kerabutyl-Cleaning-Agent	5040020041	Canister	8 kg	24 Months
KCH-Cleaner 1	5040016068	Canister	8.5 kg	24 Months
KCH-Diluent 5	5040021041	Canister	8 kg	24 Months
KCH-Diluent 9	5040015005	Canister	4 kg	24 Months

For handling, transport and storage observe the relevant safety data sheets.

Application

The GENAKOR 022 R rubber lining system is composed of the one-component Primer 1, the one-component Primer 2, the one-component Vulkodurit-adhesive LS3A and the GENAKOR-022-R-Rubber-Sheet.

Spread the Vulkodurit adhesive LS3A on the substrate. For stainless steel and grey cast iron, spread the Primer 1 on the substrate, followed by the Primer 2 and then apply two coats of the Vulkodurit-Adhesive LS3A.

The rubber sheets are coated with Vulkodurit-Adhesive LS3A and bonded to the substrate in accordance with the specifications contained in DIN EN 14879-4. A permanent and firm bond is achieved by pressing the rubber sheet and the subsequent vulcanization 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

Safety and Disposal

- sufficient aeration and de-aeration (especially in tanks and pits)
- no smoking/no fire
- refer to the safety data sheets.
- observe hazard warnings and safety instructions on labels.
- wear required personal protective equipment (avoid skin contact with materials).
- clean and protect hands with skin protective soap and skin protection cream (no solvents).
- wear a dust mask when grinding (e.g. for repairs).
- operating instructions as per § 14 of GefahrstoffV (Toxic Substances Act) and TRGS 507 (Technical regulations for Hazardous Substances - Germany).
- accident prevention regulations by the Liability Insurance Association for the Chemical Industries (Germany).

Avoid direct contact of the materials with the flame, especially during welding work (welding beads) on site.

Preferably consume residual quantities. Do not pour into a spout or dustbin! Collect separately for disposal in durable, lockable and labelled containers.

Cleaning of Equipment

The tools are cleaned with KCH Diluent 5 or STEULER UNIVERSAL CLEANER. Cleaning must be carried out prior to hardening of the material.

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This issue replaces all previous versions.