STEULER | Linings

TI 201K

Technical Information Surface Protection Linings
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VULKODURIT 1250

Hard rubber lining for the protection of steel vessels and steel components when exposed to drinking water and aqueous foods

Base

Natural rubber (NR)

Material Group

Workshop rubber linings

Description

Hard rubber coating based on natural rubber (NR) vulcanised in an autoclave. Depending on the requirements, the layer thickness of the rubber sheet can be 3 - 6 mm.

Use

VULKODURIT 1250 is applied to protect steel vessels and steel components from chemical attack.

Predominantly used for the lining of plant components that carry drinking water and aqueous foodstuffs.

Properties

VULKODURIT 1250 is characterised by its resistance to a wide range of chemicals and a high degree of diffusion resistance. It also exhibits excellent mechanical properties.

Physical Data

Property (unit), Test method	Value
Density [g/cm³], DIN EN ISO 1183-1, ASTM D 792	1.23 ± 0.02
Shore D hardness, DIN 53505, ASTM D 2240	72 ± 5
Tensile strength [MPa], DIN 53504 *	≥ 30
Elongation at tear [%], DIN EN ISO 527, ASTM C 307	≤ 3
Adherence [N/mm²], DIN EN ISO 4624	≥ 10
max. surface pressure [MPa]	10
Temperature resistance [°C]	100
	Data are mean values

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

Chemical Resistance

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

Substrate

Steel

Refer to DIN EN14879-1 as well as to STEULER-KCH-Formblatt 020.

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Container change!
Vulkodurit-Adhesive LS3A (22) 5040253014
Seam-Solution 2104/N1 (18) 5040703040
Vulkodurit-Brushing-Adhesive (21) 5040257131

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 DIN EN ISO 8503-1 must be achieved; minimum surface roughness R_z = 50 µm. After blasting, the formation of new rust must be prevented by suitable measures, 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 min. 3 K.

By temperatures between +5 °C and +10°C the dew point interval is to be at least 5 K, relative air humidity of: ≤ 75 %.

During application, the substrate must be kept absolutely dry. Uncured material has to be protected from any kind of moisture (condensation, fog, precipitation or other water source).

Packaging / Shelf life

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

Components	Item number	Package	Content	Shelf life
Primer 1	5040271039	Drum	23 kg	12 Months
Primer 2	5040274001	Drum	25 kg	12 Months
KCH-Diluent 5	5040021041	Canister	8 kg	24 Months
Vulcodurite-Adhesive LS3A	~~5040253020~~	Drum	~~16 kg~~	6 Months
Vulkodurit-adhesive LS3A for rubber lining of pipes	5040269020	Drum	16 kg	6 Months
Seam-Solution 2104/N1	~~5040703021~~	Drum	~~15 kg~~	12 Months
Vulkodurit-1250-Sheet 3 - 6 mm	6071500300–600	Roll		6 Months 12 Months < 15 °C
Vulkodurit brushing adhesive	~~5040257021~~	Drum	~~15 kg~~	6 Months

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

Application

The VULKODURIT-1250-rubber lining is composed of the two-component pre-coat compound, the single-component Vulkodurit adhesive LS3A and the Vulkodurit-1250-sheet.

For stainless steel and grey cast iron, the single-component Primer 1 and the single-component Primer 2 are applied instead of the pre-coat compound.

Pre-coat mixture

Mixing Ratio	Parts by weight (kg)	Parts by volume (l)
Vulkodurit brushing adhesive	100	2.00
Primer 2	10	0.18

Spread the pre-coat compound on the substrate and then apply the Vulkodurit adhesive LS3A. 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 the KCH-diluent 5 and bonded to the substrate in accordance with the specifications contained in DIN EN 14879-4. A durable and solid bonding will be achieved by firmly pressing down the rubber sheet and the subsequent vulcanisation process.

Consumption

Pre-coat mixture	approx. 0.22 kg/m²
Vulcodurite-Adhesive LS3A	approx. 0.25 kg/m² per coat
KCH-Diluent 5	approx. 0.10 kg/m²
For stainless steel / grey cast iron additionally	
Primer 1	approx. 0.15 kg/m²
Primer 2	approx. 0.20 kg/m²

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Safety and Disposal

- Sufficient aeration and de-aeration (especially in tanks and pits).
- No smoking/no fire
- Refer to the Safety Data Sheets
- Observe danger references and safety recommendation 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 sanding (e.g. for repairs).
- Instructions as per § 14 of GefahrstoffV (Toxic Substances Act) and TRGS 507 (Technical regulations for Hazardous Substances - Germany)
- Accident precautions issued by the Liability Insurance Association for the Chemical Industries (Germany)

Do not expose materials to heat or open flame, this applies in particular to welding works (weld beads).

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

Cleaning of Equipment

The working tools contaminated with the adhesive are cleaned using KCH-diluent 5.

Cleaning must be carried out prior to hardening of the material. Cleaning must be carried out outdoors.

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