

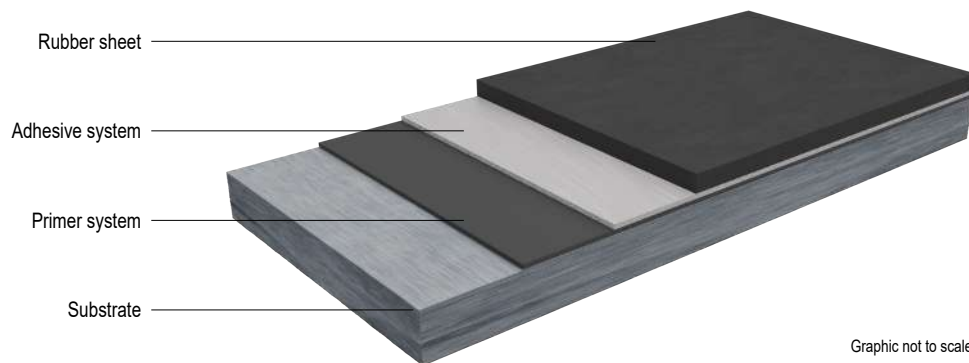
TI 155K

Technical Information Surface Protection Linings
Issue 03.02.2025

VULCOFERRAN 2209 T

Single-layer soft rubber lining for the protection of steel components

System Design



Graphic not to scale

Description and Use

Single-layer soft rubber lining based on bromobutyl rubber (BIIR), vulcanized in an autoclave.

Depending on the requirements, the layer thickness of the rubber sheet can be 2 - 6 mm.

Rubber lining is mainly used in the following applications:

- ISO Tainer
- Tank cars
- Tankers
- Tank semitrailer

Properties

- Excellent diffusion tightness
- Excellent chemical resistance to mixed acids, hypochlorite and hydrofluoric acid

Physical Data

Physical Property	Testing Standard	Value	Unit
Temperature resistance		110	°C
Shore A hardness	DIN ISO 7619-1	60 ± 5	
Peeling strength	DIN EN 14879-4	≥ 4	N/mm
Tear resistance	DIN 53504	> 5	MPa
Elongation at tear	DIN 53504	≥ 300	%
Maximum surface pressure		2	MPa
Density	DIN EN ISO 1183-1	1.25 ± 0.02	g/cm ³

Data are average values of 4 mm thick, vulcanized rubber samples

Chemical Resistance

Information on chemical resistance is available on request.

Substrate

Requirements

Application temperature approx.	10 - 30 °C
Dew point distance	> 3 K
Dew point distance from 70 % humidity	> 5 K

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

Steel

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

The steel surface is blasted to near white blast cleaning. The degree of preparation Sa 2½ according to DIN EN ISO 12944-4 and the roughness grade "Medium (G)" according to DIN EN ISO 8503-1 must be achieved; roughness depth $R_z = 50 - 70 \mu\text{m}$. After blasting, the formation of new rust must be prevented by suitable measures, such as priming directly.

The condition of the substrate is documented using STEULER-KCH-Test-Record 003 (Steel) or STEULER-KCH-Test-Record 004 (Inspection of Grit Blasting Works).

Stainless steel is blasted with ferrite-free blasting material.

Grey cast iron must be tempered in the autoclave prior to blast cleaning, in order to expel any inclusions of moisture.

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 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
Vulcoferran-2209T-Sheet 2 - 6 mm	6076304200-600	Roll		2 months 8 months < 15 °C
Primer 1	5040271039	Hobbock	23 kg	12 months
Primer 2	5040274001	Hobbock	25 kg	12 months
Adhesion-Solution 2206/W1	5040740014	Hobbock	22 kg	12 months
KCH-Cleaner 1	5040016068	Canister	8.5 kg	24 months
KCH-Diluent 5	5040021041	Canister	8 kg	24 months
Release liners quality 2602/4706/125 C	9012015			

By applying of flange sealing faces additionally:

Vulcoferran-2194-Sheet 2 - 6 mm	6071610200-600	Roll		2 months 9 months < 15 °C
Vulkodurit-Adhesive LS3A	5040253014	Hobbock	22 kg	6 months

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

Application

Primer 1 and Primer 2 are each applied once to the substrate. The Vulkodurit-Adhesive LS3A is then applied twice with suitable tassels or brushes. Rollers must not be used.

The rubber sheets are bonded to the substrate in accordance with DIN EN 14879-4.

A permanent and strong bond is achieved by the subsequent vulcanisation process in the autoclave.

Consumption

Consumption Primer 1 per order approx. 0.150 kg/m²

Consumption Primer 2 per order approx. 0.200 kg/m²

Consumption Adhesion-Solution 2206/W1 per order approx. 0.200 kg/m²

The consumption figures already include the usual losses during application.

Safety and Disposal

The following points should be observed:

- Sufficient ventilation and venting (especially in pits and tanks)
- No smoking and no fire
- 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 protection soap (no solvents!) and skin protection cream
- 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

Tools soiled with uncured materials can be cleaned with KCH-Cleaner 1 (primer) and KCH-Diluent 5 (adhesive). Only clean in well ventilated areas.

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This issue replaces all previous versions.