

TI 109K

Technical Information Surface Protection Linings
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KERABUTYL BBS

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

Base

Bromobutyl rubber (BIIR)

Material Group

On-site rubber lining

Description

Self-vulcanizing, single-ply soft rubber lining based on bromobutyl rubber (BIIR).

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

Application

Rubber lining is mainly used in the following applications:

- Systems with vacuum stress
- Systems with high operating temperatures
- HCl storage and process tanks
- Phosphoric acid plants
- Flue gas cleaning plants

Properties

- Excellent diffusion tightness
- Wide chemical resistance
- Good temperature resistance
- Unvulcanized rubber sheet
 - Easy application for difficult geometries
 - High adhesive strength to the steel substrate

Physical Data

Property [unit], Test method	Value
Temperature resistance [°C]	110
Shore A hardness, DIN 53505, ASTM D 2240	60 ± 5
Peeling strength [N/mm], DIN EN 14879-4	≥ 4
Tensile strength [MPa], DIN 53504	> 5
Elongation at tear [%], DIN 53504	≥ 300
Maximum surface pressure [MPa]	2
Density [g/cm ³], DIN EN ISO 1183-1, ASTM D 792	1.25 ± 0.02

Data are mean values of 4 mm thick vulcanized rubber samples.

Chemical Resistance

Information on chemical resistance is available on request.

Substrate

Requirements

Processing temperature	approx. 10–30 °C
Dew point distance	> 3 K
Dew point distance from 70% air humidity	> 5 K

Steel

Please observe DIN EN 14879-1 and the STEULER-KCH forms 020 and 030.

The steel surface is blasted to a metallic bright finish. A surface cleanliness of 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; surface roughness R_z = 40-70 µm. After blasting, the formation of new rust must be prevented by suitable measures, such as priming directly.

The condition of the substrate must be documented by STEULER-KCH-Test-Record 003 (Steel) resp. STEULER-KCH-Test-Record 004 (Inspection of Grit Blasting Works).

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.

Moisture

During application, the substrate must be kept 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 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
Kerabutyl-BBS-Sheet 2–6 mm	6076300200–600	Roll		2 Months 8 Months < 15 °C
Primer 1	5040271039	Hobbock	23 kg	12 Months
Primer 2	5040274001	Hobbock	25 kg	12 Months
Accelerator 2206	5040781081	Can	0.036 kg	24 Months
Adhesion-Solution 2206/W1	5040740020	Hobbock	16 kg	12 Months
Adhesion-Solution 2206/L2	5040759020	Hobbock	16 kg	12 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
Release liners quality 2602/4706/125 C	9012015			

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

Application

The rubber lining system KERABUTYL BBS consists of the 1-component Primer 1, the 1-component Primer 2, the 2-component adhesive consisting of Adhesion-Solution 2206/W1 and Accelerator 2206 and the Kerabutyl-BBS-Sheet.

In-house

For autoclave vulcanization, the Adhesion-Solution 2206/W1 is used without Accelerator 2206.

Adhesive mixing ratio

Component	Part by weight	kg / batch
Adhesion-Solution 2206/W1*	1.000	16.000**
Accelerator 2206	0.002	0.036**
Total		16.036

* Adhesion-Solution 2206/L2 only for multi-layer bonding.

** pre-dosed package.

Apply Primer 1 on the steel substrate. Then apply Primer 2 once and then the adhesive twice. Apply the adhesive once to the rubber sheet.

The rubber sheets are bonded to the substrate based on DIN EN 14879-4.

Consumption

Primer 1	approx. 0.15 kg/m ²
Primer 2	approx. 0.20 kg/m ²
Adhesion-Solution 2206/W1	approx. 0.20 kg/m ² per application

The consumption figures already include the usual losses during application.

In exceptional cases the curing of the adhesive can be accelerated. The Application Technology Department must be contacted for this purpose.

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.