B-TEAM
CORROSION PROTECTION
Coat for Every Industry!

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PRODUCT INFORMATION

CHEMONIT 181 (IR/SBR)

General properties

CHEMONIT 181 is a black hard rubber material on the basis of polyisoprene (IR) and styrene butadiene rubber (SBR), which must be vulcanised in the autoclave by hot air or alternatively with steam.

The essential properties of the hard rubber material **CHEMONIT 181** are its strong resistance to mineral acids, bases and aqueous phases.

CHEMONIT 181 can be used especially in the field of drinking water (approved according to KTW) as well as for lining of swimming or bathing pools (KSW-Approval). This material corresponds to DVGW-Working Sheet W 270 as well as the FDA requirements. Moreover, the material CHEMONIT 181 for the nuclear field is approved.
It meets the requirements of the AVS D 6.1 / 50 and QR 03/FIN 005th FAB

The vulcanising material **CHEMONIT 181** can be used for application within temperatures of – 15 °C up to + 100 °C.

General Approval of German Institute for Construction Technology (DIBt)

The lining material **CHEMONIT 181** is approved by the German Institute for Construction Technology (DIBt) as an organic surface protection for storage tanks that are subject to the German water resources law (WHG 19)

CERTIFICATE No.: Z-59.22-142

Fields of application

Due to its resistance to numerous chemicals **CHEMONIT 181** is used as surface protection for years in the chemical steel industry, for environment protection purposes and especially in the field of drinking water. Here, structural steel parts subject to high chemical, mechanical and thermal stress, such as storage bins, filter cells, mixing tanks, water treatment containers, crystallisers, centrifuges and pipe spools can be protected from corrosion by the **CHEMONIT 181** lining material.

Shelf life

CHEMONIT 181 lining material can be stored without any loss of quality for a period of up to 3 month at a maximum temperature of + 25 °C.

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Under cool storage conditions (at a temperature of +5 °C) the material can be stored for a period of 12 months. The conditions specified within DIN standard 7716 must be observed.

Application on steel

If the Vulcanisation occurs with hot air, **CHEMONIT 181** has to be bonded on steel with **ADHESIVE SOLUTION SH-3A** and **PRIMER HG 2.**

If the Vulcanisation occurs with steam, it is required to combine the 2-Layer Primer System **PRIMER HG 1/ PRIMER HG 2** with **ADHESIVE SOLUTION SH-3A.** The **PARA ADHESIVE SOLUTION** can be used for **CHEMONIT 181** rubber sheets.

The standards EN 14879-1, EN 14879-4 and EN ISO 12944-4 have to be observed

Vulcanisation

CHEMONIT 181 is vulcanised in the autoclave at a temperature of approx. + 140 °C at a pressure of 4 bars. The necessary vulcanising time depends on the wall thickness of the steel parts as well of the rubber lining. As standard value, including the heating-up and cooling-down time, approx. 8 – 10 hours can be taken.

Vulcanisation will be done by means of hot air or steam alternatively.

Spark test

The spark test (Holiday Test) is carried out according to EN 14789-4. An earthed high-voltage spark tester Elmed-Isotest II RT or alternatively the Wegener Spark Tester WEG 20/22 must be used.

The test voltage has to be set as follows:

Lining material	Test voltage
CHEMONIT 181 un-vulcanised	5 KV/mm (max. 20 KV)
CHEMONIT 181 vulcanised	5 KV/mm (max. 20 KV)

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Mechanical - Physical Characteristics

Properties	Unit	Standard	Value
Polymer		SO 1629	IR / SBR
Density raw material	[g/cmł]	Elatest	1.28 ± 0,02
Density of cured material	[g/cmł]	EN ISO 1183-1 ASTM D 297	1.32 ± 0.02
Hardness	[Shore D]	DIN 53505 ASTM D 2240	75 ± 5 [1) 2)]
Tensile strength determined on:	[MPa] S1	EN ISO 527 ASTM D 638	20 [1)]
Elongation at break determined on:	[%] S1	EN ISO 527 ASTM D 638	1,5 [1)]
Youngs modules	[MPa]	EN ISO 527 ASTM D 638	1500 [1)]
Bending strength	[MPa]	EN ISO 178 ASTM D 790	40 [1)]
Max. surface pressure	[MPa]		10
Bonding strength to steel	[MPa]	EN ISO 4624 ASTM D 429	6
Volume resistivity	[W . cm]	DIN IEC 60093	10^{11}
Linear coefficient of expansion	[K^{-1}]	DIN 53752	-
Test voltage	[KV/mm]	EN 14879-4	5
Operating temperature	[C°]		100

1) Vulcanised in the press (45 min / + 165° C)

2) Vulcanised in autoclave (on not ground substrates)

The information given above is based on approved test results and represents statistical product data, which however does not necessarily guarantee the specific properties of the product.

We reserve the right to changes to technical specifications without prior notice, provided these ensure technical improvement without major modifications to the product itself.

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Basic Program CHEMONIT 181

Availability and dimensions

Rubber sheets with PE separating sheets on hard core, freely suspended in cardboard boxes.

Length [mm]	Width [mm]	Thickness [mm]	Quantity [m²]	Product-No.
10.000	1.100	2	11	529 4921
10.000	1.100	3	11	529 4969
10.000	1.100	4	11	529 5009
10.000	1.100	5	11	529 5047
10.000	1.100	6	11	529 5085