B-TEAM
CORROSION PROTECTION
Coat for Every Industry!

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PRODUCT INFORMATION

CHEMONIT 31 (NR)

General properties

CHEMONIT 31 is a black hard rubber material on the basis of natural rubber, which must be vulcanised in the autoclave by hot air or alternative in steam. The essential properties of the hard rubber material ***CHEMONIT 31*** are its strong resistance against mineral acids, bases, aqueous phases, organic chemicals and especially its excellent resistance to thermal shocks.

The above mentioned lining material can be used from - 15 °C to + 100 °C.

General Approval of German Institute for Construction Technology (DIBt)

The lining material ***CHEMONIT 31*** 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 I)

CERTIFICATE-No.: Z-59.22-140

Fields of application

Due to its resistance to numerous inorganic and organic chemicals, the lining material ***CHEMONIT 31*** is used as surface protection in the chemical, chlorine and steel industry, in mineral processing installations as well as in the field of environmental protection. Here structural steel parts subject to high chemical, mechanical and thermal stress, such as storage bins, filter cells, mixing tanks, crystallisers, centrifuges and pipes can be protected from corrosion by the ***CHEMONIT 31*** lining material

Shelf life

CHEMONIT 31 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.

Under cool storage conditions (at a temperature of + 5 °C) ***CHEMONIT 31*** can be stored for a period of 12 months. The conditions specified within DIN standard 7716 must be observed.

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Application on steel

If ***CHEMONIT 31*** will be vulcanised with hot air, the material is bonded onto steel with the ADHESIVE SOLUTION SH-3A.

In case that ***CHEMONIT 31*** will be vulcanised with steam and for special applications, e.g. stainless steel application, the 2 layer priming system ***PRIMER HG 1*** and ***PRIMER HG 2*** is used in combination with the ***ADHESIVE SOLUTION SH-3A***The ***PARA ADHESIVE SOLUTION*** can be used for the ***CHEMONIT 31*** rubber sheet.

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

For lining the surface of the flanges on site, pre-vulcanised ***CHEMONIT 31*** sheets (dimension 1.000 x 1.000mm / thickness: 4 - 6 mm) will be used. These hard rubber sheets will be cut on side, and applied with ***CHEMONIT REPAIR CEMENT A+B***.

Vulcanisation

CHEMONIT 31 is vulcanised in an autoclave at a temperature of approx. + 140 °C and 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 by means of either hot air or steam is possible.

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 allowed test voltages are as follows:

Lining material	Test voltages
CHEMONIT 31 un-vulcanised	5 KV/mm (max. 20 KV)
CHEMONIT 31 vulcanised	5 KV/mm (max. 20 KV)

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Mechanical - Physical Characteristics

Properties	Unit	Standard	Value
Polymer		ISO 1629	NR
Density raw material	[g/cm^3]	Elatest	1.14 ± 0.02
Density of cured material	[g/cm^3]	EN ISO 1183-1 ASTM D 297	1.17 ± 0.02
Hardness	[Shore D]	DIN 53505 ASTM D 2240	75 ± 5 [1)] 75 ± 7 [2)]
Tensile strength determined on:	[MPa] S1	EN ISO 527 ASTM D 638	≥ 40 [1)]
Elongation at break determined on:	[%] S1	EN ISO 527 ASTM D 638	≥ 4 [1)]
Young's modules	[MPa]	EN ISO 527 ASTM D 638	≥ 2000 [1)]
Bending strength	[MPa]	EN ISO 178 ASTM D 790	≥ 80 [1)]
Bonding strength to steel	[MPa]	EN ISO 4624 ASTM D 429	≥ 6
Volume resistivity	[Ω . cm]	DIN IEC 60093	10^{15}
Linear coefficient of expansion	[K^{-1}]	DIN 53752	90 x 10^{-6}
Test voltage	[KV/mm]	EN 14879-4	5
Operating temperature	[C°]		≤ 100

1) Press vulcanisation (2 h / + 145 °C)
2) Vulcanised in autoclave

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 31*

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	392529
10.000	1.100	3	11	396529
10.000	1.100	4	11	400529
10.000	1.100	5	11	404529
10.000	1.100	6	11	408529

CHEMONIT 31 is available as vulcanised sheets for site application of flanges.

Dimension: 1000 mm x 1000 mm thickness from 4 to 6.