PRODUCT INFORMATION

CHEMONIT 18 (NR)

General properties

CHEMONIT 18 is a graphited and electrostatic dissipating black hard rubber material on the basis of natural rubber (NR) that can be vulcanised in the workshop in an autoclave.

The outstanding features of the hard rubber material ***CHEMONIT 18*** are the good chemical resistance against mineral acids, bases, aqueous phases, moist chlorine and especially the good thermal shock resistance.

The above mentioned lining material can be used within a temperature range from - 10 °C to + 100 °C. Short term service temperatures up to 120 °C are acceptable under some conditions, please consult TIP TOP.

Fields of application

Due to its chemical resistance against inorganic and organic chemicals the lining material ***CHEMONIT 18*** is used as industrial surface protection in chemical, chlorine and steel industry, mineral processing, electroplating, and environmental protection. Here the lining material ***CHEMONIT 18*** protects chemical-thermally highly stressed steel construction parts such as storage, filter and stirrer containers, galvanic vats, crystallizing reactors, centrifugal drums, and pipe works against corrosion.

Shelf life

CHEMONIT 18 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) the material can be stored for a period of 12 months. The conditions specified within DIN standard 7716 must be observed.

Application on steel

CHEMONIT 18 has to be bonded on steel with the ***ADHESIVE SOLUTION SH-3A.***

If ***CHEMONIT 18*** is vulcanised with steam and for special applications the 2 layer priming system ***PRIMER HG 1*** and ***PRIMER HG 2*** has to be used in combination with the ***ADHESIVE SOLUTION SH-3A.*** The ***PARA ADHESIVE SOLUTION*** can be used for the ***CHEMONIT 18*** rubber sheet.

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

Vulcanisation

CHEMONIT 18 is vulcanised with hot air or steam 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.

Spark test

Due to its electrostatic features (electroconductive) the lining material cannot be tested by means of a spark test (high-voltage test – Holiday Test) for tightness. The dye penetration test and visual inspections are recommended test procedures.

The following mixture of chemicals can be used as test liquid for the above mentioned dye penetration test. Pores and cracks which extend to the substrate are shown by colour reaction.

Chemical composition of the test liquid

1 g potassium ferricyanide per litre

10 g sodium chloride per litre

1 g surfactant (agar-agar) per litre

Mechanical - Physical Characteristics

Properties	Unit	Standard	Value
Polymer		ISO 1629	NR
Density raw material	[g/cm^3]	Elatest	1.34 + 0.02
Density of cured material	[g/cm^3]	EN ISO 1183-1 ASTM D 297	1.36 + 0.02
Hardness	[Shore D]	DIN 53505 ASTM D 2240	75 $\pm$ 5 [1)] 70 $\pm$ 5 [2)]
Tensile strength determined on:	[MPa] S1	EN ISO 527 ASTM D 638	> 40 [1)]
Elongation at break determined on:	[MPa] S1	EN ISO 527 ASTM D 638	> 2 [1)]
Youngs modules	[MPa]	EN ISO 527 ASTM D 638	> 2000
Bending strength	[MPa]	EN ISO 178 ASTM D 790	> 60
Bonding strength to steel	[MPa]	EN ISO 4624 ASTM D 429	> 6
Volume resistivity	[Ω . cm]	DIN IEC 60093	10^6
Linear coefficient of expansion	[Ω . cm]	DIN 53752	16 x 10^{-6}
Test voltage	[KV/mm]	EN 14879-4	not testable
Operating temperature	[C°]		< 100

1) Press vulcanisation (2 h / + 145° C)
2) Vulcanised in autoclave [on un-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.

Basic Program *CHEMONIT 18*

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 4732
10.000	1.100	3	11	529 4770
10.000	1.100	4	11	529 4818
10.000	1.100	5	11	529 4856
10.000	1.100	6	11	529 4894

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