B-TEAM
CORROSION PROTECTION
Coat for Every Industry!

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PRODUCT INFORMATION

CHEMOLINE 13 (BIIR)

General properties

CHEMOLINE 13 is a black soft rubber material on the basis of bromobutyl rubber (BIIR) that can be vulcanised as well in the workshop in an autoclave or on site without pressure by means of hot air or steam. Detailed vulcanisation conditions are given in the Installation Procedures.

Under special circumstances ***CHEMOLINE 13*** can also be vulcanised at operating conditions (vulcanisation by means of medium). This vulcanisation procedure is only allowed after having consulted the supplier (REMA TIP TOP).

The essential properties of soft rubber material ***CHEMOLINE 13*** are its strong chemical resistance to mineral acids, bases, polar solvents, aqueous phases, and especially its excellent diffusion resistance to gases like sulphur dioxide, nitrogen oxide and saturated water vapour.

CHEMOLINE 13 shows excellent resistance against concentrated hydrochloric acid at temperatures up to 70 °C. Further we want to emphasize the excellent permeation resistance against water vapour.

CHEMOLINE 13 can be used within temperatures of – 40 °C up to + 110 °C depending on the chemical loads.

Fields of application

Due to its resistance to numerous chemicals ***CHEMOLINE 13*** is worldwide used 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, condensers and FGD plants can be protected from corrosion by using the ***CHEMOLINE 13*** lining material.

CHEMOLINE 13 lining is used in phosphoric acid plants and can be used for vacuum services

Shelf life

The ***CHEMOLINE 13*** lining material can be stored without any loss of quality up to 2 month at maximum temperatures of + 25 °C.

Under cool storing conditions (at a temperature of + 5 °C) above mentioned lining material can be stored 8 months. DIN 7716 has to be observed.

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Application on steel

a) The lining material ***CHEMOLINE 13*** is bonded onto steel by using the TIP TOP two-coat primer system ***PRIMER PR 500-1*** / ***PRIMER S 500-2*** in combination with ***CEMENT TC 5000*** (polymer basis BIIR).
The standards EN 14879-1, EN 14879-4 and EN ISO 12944-4 have to be observed.

The TC 5000 bonding system requires a subsequent thermal treatment in order to reach the final bonding strength, i.e. the lining material must be warmed for 7 days at minimum 45 °C by hot air or hot water or the medium when permissible.

b) The CFC-free cold bonding system ***METAL PRIMER PR 304*** in combination with ***CEMENT BC 3004*** or the adhesive system ***METAL PRIMER PR 300*** in combination with ***CEMENT BC 3000*** can be used alternatively. When using the cold bonding system the service temperature is limited to 85 °C. The chemical resistance has to be observed.

Spark test

The spark test (Holiday Test) is carried out according to the EN 14879-4. An earthed high-voltage spark tester Elmed-Isotest II RT or alternatively the Wegener AC Spark Tester WEG 20/22 must be used.

The test voltage has to be set as follows:

Lining material	Test voltage
CHEMOLINE 13 un-vulcanised	3 KV/mm (max. 15 KV)
CHEMOLINE 13 vulcanised	3 KV/mm (max. 15 KV)

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Mechanical - Physical Characteristics

Properties	Units	Standard	Value
Polymer	ISO 1629	BIIR	
Tensile strength determined on:	[MPa] S2 Bar	DIN 53504	⩾6 [1)]
Elongation at break determined on:	[%] S2 Bar	DIN 53504	⩾400 [1)]
Hardness	[Shore A]	DIN 53505	60 ± 5 [1)]
Rebound resilience	[%]	DIN 53512	⩾10 [1)]
Abrasion	[mmł]	ISO 4649	≤ 250[1)]
Density	[g / cmł]	EN ISO 1183-1	1.24 ± 0.02 [1))]
Bonding strength on steel	[N / mm]	ISO 813	≥ 4
Surface resistivity	[Ω]	DIN IEC 60093	≥ 10^5
Test voltage	[KV/mm]	EN 14879-4	3
Operating temperature	[° C]		≤ 110
Thermal conductibility	[W / mK]	DIN 51046	0.35
Water vapour permeability @ 40 °C (Thickness of sheet 4 mm)	[g / m, ·d]	DIN 53122	0.08

[1)] Press vulcanisation

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 *CHEMOLINE 13*

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	528 1700
10.000	1.100	3	11	528 1715
10.000	1.100	4	11	528 1725
10.000	1.100	5	11	528 1735
10.000	1.100	6	11	528 1745