

PRODUCT INFORMATION

CHEMOLINE RT

PRODUCT DESCRIPTION

CHEMOLINE RT is a black soft rubber lining based on a copolymerised Bromobutyl rubber (BIIR) with high chemical and thermal resistance.

FIELDS OF APPLICATION

CHEMOLINE RT is used mainly for rubber linings of steel components which are exposed to chemical loads. The field of applications are chemical plants, chlorine and steel industries, mineral processing plants and environmental protection plants. Some typical examples of its applications are the rubber linings of storage tanks, agitated tanks, electroplating baths and chlorine electrolysis plants (cells). Furthermore **CHEMOLINE RT** is used as the corrosion protection rubber lining for storage and transport containers which contain chlorine bleach or hydrofluoric acid, as well as for road tankers and tank wagons.

FEATURES

- Strong resistance against mineral acids (Including hydrofluoric acid), bases and especially outstanding resistance against oxidizing media such as sodium hypochlorite with increased chlorine content (max. 190 g/l) as well as chromic acid
- Strong resistance against temperature excursions
- Good resistance against UV and ozone
- High thermal stability (max. +120°C)
- Application onto steel components
- Workshop rubber lining

CHEMICAL RESISTANCE

Information on the chemical resistance properties is available upon request.

SUBSTRATE

Substrates are components made of non-ferrous metals, cast iron, non-alloyed or austenitic steel. Components to be rubber lined shall be designed and manufactured in accordance with EN 14879-1.

SURFACE PRE-TREATMENT

All surfaces to be rubber lined must be dry and free of contaminants. All contaminants, including non-visible detectable contaminants, must be removed in accordance with DIN TR 55684 or EN ISO 8502. Non-alloyed steel surfaces shall be abrasive blasted to "Near White Metal" in accordance with EN ISO 12944-4. A surface preparation degree of SA 2½ (SSPC-SP 10; NACE No. 2) as specified in EN ISO 8501-1 and a "medium (G)" roughness degree as specified in EN ISO 8503-2 must be achieved. A minimum surface profile of $R_z \geq 50 \mu\text{m}$ is required. To prevent flash rust, the primer must be applied immediately after the blasting and cleaning of the substrate or the component must be air conditioned to a relative humidity of $\leq 40\%$.

ENVIRONMENTAL CONDITIONS

Throughout the rubber lining process, the temperatures of the substrate and rubber lining materials shall be maintained within the range specified by TIP TOP. All surfaces shall be maintained at a temperature at least 3K above the dew point in order to prevent condensation.

ADHESIVE SYSTEM

CHEMOLINE RT is bonded onto steel components by using the two-coat primer system **PRIMER HG 1** & **PRIMER HG 2** in combination with **ADHESIVE TC 5002**. **ADHESIVE TC 5002** is thixotropic and must be stirred well prior to use.

APPLICATION METHOD AND CONSUMPTION

During the application of the product, the application instruction must always be observed.

Coat	Product	Application Method	Coverage [g/m ²]
1. Coat steel	PRIMER HG 1	Roll / Spray	ca. 150
2. Coat steel	PRIMER HG 2	Brush	ca. 150
3. Coat steel	ADHESIVE TC 5002	Roll	ca. 150
4. Coat steel	ADHESIVE TC 5002	Brush	ca. 150
1. Coat rubber	ADHESIVE TC 5002	Brush	ca. 150

CLEANING

Clean all equipment with **SOLVENT CF-CE** immediately after use.

VULCANISATION

The details given in the application instruction must be observed during vulcanisation.

Place	Vulcanisation Method
Workshop	Vulcanisation in an autoclave under pressure by means hot air or steam.
On Site	Vulcanisation under pressure by means steam.

The vulcanisation On Site is only allowed after consultation with the Application Technology Department of TIP TOP.

SPARK TEST

The spark test (holiday test) of new rubber linings is carried out according EN 14879-4 by using a high voltage tester. For carrying out the spark test, only the high voltage testers of Elmed model Isotest IIRT, Isotest 3P or Isotest Inspect 35 as well as the test pistols of Wegener model WEG 20, WEG 22 or WEG 100 are allowed.

CHEMOLINE RT	Test Voltage [kV/mm]	Max. Test Voltage [kV]
unvulcanised	3.0	15.0
vulcanised	3.0	15.0

SAFETY MEASURES

The material safety data sheets of the individual components, the safety instructions on the packing (label) as well as the legal requirements for handling hazardous materials must be observed.

CHEMOLINE RT

PACKING UNITS

The products are supplied in the following standard package sizes:

Product	Size	Article No.
ADHESIVE TC 5002	9 kg	525 2810
ADHESIVE TC 5002	23 kg	525 2790
RIMER HG 1	0.75 kg	525 2949
MER HG 1	4.5 kg	525 3050
PRIMER HG 1	9 kg	525 2956
PRIMER HG 2	0.75 kg	525 2970
PRIMER HG 2	4.5 kg	525 3060
PRIMER HG 2	9 kg	525 2987
SOLVENT CF-CE	10 l	595 9163

PACKAGING OF RUBBER SHEETS

The rubber sheets are wrapped with PE-separating sheets on cardboard cores, and packed freely suspend in stable, stackable card boxes, to avoid pressure points.

CHEMOLINE RT is manufactured by extrusion in the following standard sizes:

Size (Tolerances according EN 14879-4)	Article No.
2 mm x 1100 mm x 10000 mm	528 4000
3 mm x 1100 mm x 10000 mm	528 4010

Size (Tolerances according EN 14879-4)	Article No.
4 mm x 1100 mm x 10000 mm	528 4020
5 mm x 1100 mm x 10000 mm	528 4030
6 mm x 1100 mm x 10000 mm	528 4040

STORAGE

The products must be stored in a cool and dry place, away from direct sunlight. The rubber sheets must be stored free of pressure, best in the original packaging. The rubber sheets may not receive any pressure points. At the specified storage temperatures a shelf life of the products is given of at least for the following periods:

Product	Temperature	Shelf Life
ADHESIVE TC 5002	5 - 25°C	6 Months
CHEMOLINE RT	≤ +5°C	6 Months
CHEMOLINE RT	≤ +25°C	3 Months
PRIMER HG 1	5 - 20°C	12 Months
PRIMER HG 2	5 - 20°C	12 Months
SOLVENT CF-CE	5 - 25°C	60 Months

If the storage time is exceeded, the materials must be tested before use. Higher storage and transport temperatures will reduce the shelf life. The containers must be kept tightly closed. Liquid products must be stored frost-proof. In addition, the DIN 7716 must be observed.

Technical Data	Standard	Unit	Value
Polymer Base	ISO 1629 (ASTM D1418)	-	BIIR
Abrasion	ISO 4649 (ASTM D5963)	mm ³	≤ 250*
Density	EN ISO 1183-1 (ASTM D792)	g/cm ³	1.23 ± 0.02
Contact Resistance	EN 62631-3-1	Ω · cm	2.8 x 10 ¹¹
Hardness - Shore A	ISO 48-4 (ASTM D2240)	-	65 ± 5**
Max. Surface Pressure	-	N/mm ²	2
Surface Resistance	EN 62631-3-1	Ω	2.7 x 10 ¹¹
Elongation at Break	DIN 53504 (ASTM D412)	%	≥ 150***
Tensile Strength	DIN 53504 (ASTM D412)	N/mm ²	≥ 8***
Impact Resilience	DIN 53512	%	≥ 8*
Peel Strength to Steel	ISO 813 (ASTM D429)	N/mm	≥ 4
Temperature Range	-	°C	-40 up to +120

* Press vulcanisation ** Autoclave vulcanisation *** S2 dump-bell test piece after press vulcanization

Note: The indicated temperatures are dependent on the present load and may vary

Information given in the fact sheet above corresponds to the current knowledge available to us regarding our products at the time of its drafting and is intended as a guideline for informational purposes. However, because of the multiple possibilities regarding possible applications, processing and on site conditions, any information given in the fact sheet above is not legally binding, in particular, without being limited to, such information shall not be interpreted as a warranty of merchantability or of fitness for a particular purpose. Customer therefore is advised to conduct its own testing or make an inquiry with our technical department before ordering. We reserve the right to change the product at any time, in particular, without being limited to, minor changes because of advancements in technology. If by way of exception, the information given in the fact sheet above is incorporated by reference into any contract concluded with us under German Law, such information, shall only be interpreted as determining the specific requirements of the contractual products as set out in § 434 BGB (German Civil Code) and shall not be interpreted as constituting a guarantee of condition.

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TIP TOP Oberflächenschutz Elbe GmbH	CHEMOLINE RT	Revision 1.08 - 04.01.2022
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