



PRODUCT INFORMATION

CHEMOLINE 12 FDA

PRODUCT DESCRIPTION

CHEMOLINE 12 FDA is a soft rubber lining based on chlorobutyl rubber (CIIR).

FIELDS OF APPLICATION

CHEMOLINE 12 FDA was specially developed for the workshop rubber lining of steel components exposed to chemicals. The fields of application range from water treatment to the chemical industry. Typical applications are the linings of storage and agitator tanks, tanks, measuring tubes and containers in the phosphoric acid industry.

FEATURES

- Good chemical resistance to mineral acids, phosphoric acid and bases
- High insulation resistance
- FDA certificate according the guidelines CFR 21§ 177.2600 of the Food and Drug Administration
- Application on metallic substrates
- Workshop rubber lining

CHEMICAL RESISTANCE

Requests for chemical resistance can be sent to awt@tiptop-elbe.de.

SUBSTRATE

Substrates are components made of non-ferrous metals, cast materials, unalloyed or austenitic steel. The components must be designed and manufactured in accordance with EN 14879-1. The substrate must remain dry during application.

SURFACE PRE-TREATMENT

EN14879-1 and the TIP TOP specification "Corrosion protection of metallic components" must be observed. Unalloyed steel must be blasted to "Near White Metal" in accordance with EN ISO 12944-4. A surface preparation degree of SA 2½ according EN ISO 8501-1 and a roughness degree "Medium (G)" according EN ISO 8503-2 must be achieved. A minimum roughness depth of $Rz \geq 50 \mu m$ is required. After blasting, the formation of new rust should be prevented by suitable measures (e.g. priming).

CLIMATIC CONDITIONS

During application, direct or indirect sunlight must be avoided and the climatic conditions specified in the application instruction must be observed. To avoid condensation, a dew point difference of at least 3K must be maintained. During application, the materials must never be colder than the ambient temperature at the workplace.

ADHESIVE SYSTEM

CHEMOLINE 12 FDA is bonded to steel with **PRIMER HG 1 & PRIMER HG 2** in combination with **ADHESIVE TC 5000**. Alternatively, **PRIMER PR 500-1 & PRIMER S 500-2** can also be used in combination with **ADHESIVE TC 5000**.

APPLICATION METHOD | CONSUMPTION | OPEN TIME

| Coat | Product | Application | Consumption | Min. Open Time | Max. Open Time |
|----------------|-------------------------|--------------|--------------------------|----------------|----------------|
| 1. Coat steel | PRIMER HG 1 | Roll / brush | ca. 150 g/m ² | 2 h | 14 d |
| 2. Coat steel | PRIMER HG 2 | Brush | ca. 150 g/m ² | 1 h | 7 d |
| 3. Coat steel | ADHESIVE TC 5000 | Brush / roll | ca. 150 g/m ² | 4 h | 7 d |
| 4. Coat steel | ADHESIVE TC 5000 | Brush | ca. 150 g/m ² | 1 h | 3 h |
| 1. Coat rubber | ADHESIVE TC 5000 | Brush | ca. 150 g/m ² | 1 h | 1,5 h |

Always observe the current application instruction before using the products. The specified open times apply to a temperature range of +20°C to +25°C.



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CLEANING

All equipment should be cleaned with **SOLVENT CF-CE** immediately after use. The equipment should be cleaned in a well-ventilated area.

VULCANISATION

| Location | Vulcanisation |
|----------|---|
| Workshop | Vulcanisation in an autoclave under pressure using hot air or steam |

When vulcanising the product, the information in the application instruction must be observed.

SPARK TEST

The spark test is carried out in accordance with EN 14879-4. Only the Elmed Isotest IIRT, Isotest 3P or Isotest Inspect 35 high-voltage testers and the Wegener WEG 20, WEG 22 or WEG 100 test pistols may be used. Multiple tests can reduce the dielectric strength of the lining materials and must be taken into account by reducing the test voltage by at least 1 kV/mm. Special agreements are required for linings that have already been in operation.

| CHEMOLINE 12 FDA | Test voltage | Max. Test voltage |
|---------------------------|--------------|-------------------|
| unvulcanised & vulcanised | 3,0 kV/mm | 15,0 kV |

APPROVALS AND TEST CERTIFICATES

Certificate of suitability for aqueous food in accordance with the guidelines CFR 21§ 177.2600 of the Food and Drug Administration (FDA).

DELIVERY FORM | MINIMUM SHELF LIFE

| Product | Packaging | Article No. | Storage temperature | Min. shelf life |
|------------------|-----------|-------------|---------------------|-----------------|
| ADHESIVE TC 5000 | 4.5 kg | 525 2389 | 5 - 25°C | 12 Mon |
| ADHESIVE TC 5000 | 9 kg | 525 2286 | 5 - 25°C | 12 Mon |
| ADHESIVE TC 5000 | 25 kg | 525 2224 | 5 - 25°C | 12 Mon |
| ADHESIVE TC 5000 | 182 kg | 525 2293 | 5 - 25°C | 12 Mon |
| PRIMER HG 1 | 0.75 kg | 525 2949 | 5 - 25°C | 12 Mon |
| PRIMER HG 1 | 4.5 kg | 525 3050 | 5 - 25°C | 12 Mon |
| PRIMER HG 1 | 9 kg | 525 2956 | 5 - 25°C | 12 Mon |
| PRIMER HG 1 | 25 kg | 525 2963 | 5 - 25°C | 12 Mon |
| PRIMER HG 2 | 0.75 kg | 525 2970 | 5 - 25°C | 12 Mon |
| PRIMER HG 2 | 9 kg | 525 2987 | 5 - 25°C | 12 Mon |
| PRIMER HG 2 | 25 kg | 525 2994 | 5 - 25°C | 12 Mon |
| SOLVENT CF-CE | 10 l | 595 9163 | 5 - 25°C | 60 Mon |

| Dimensions | Article No. (DIN*) | Article No. (MIN) | Storage temperature | Min. shelf life |
|---------------------------|--------------------|-------------------|---------------------|-----------------|
| 2 mm x 1100 mm x 10000 mm | 528 1650 | - | ≤ +5°C ≤ +25°C | 12 Mon 6 Mon |
| 3 mm x 1100 mm x 10000 mm | 528 1660 | - | ≤ +5°C ≤ +25°C | 12 Mon 6 Mon |
| 4 mm x 1100 mm x 10000 mm | 528 1670 | 20000098 | ≤ +5°C ≤ +25°C | 12 Mon 6 Mon |
| 5 mm x 1100 mm x 10000 mm | 528 1680 | - | ≤ +5°C ≤ +25°C | 12 Mon 6 Mon |
| 6 mm x 1100 mm x 10000 mm | 528 1690 | - | ≤ +5°C ≤ +25°C | 12 Mon 6 Mon |

* Tolerances according to EN 14879-4

The rubber sheets are wrapped in PE film on cardboard sleeves and packed freely suspended in sturdy, stackable cardboard boxes. The products must be stored in a cool, dry place protected from direct sunlight. If the minimum

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DELIVERY FORM | MINIMUM SHELF LIFE

shelf life is exceeded, the materials must be checked before use. Higher storage and transport temperatures shorten the shelf life. The containers must be stored frost-free and tightly closed and resealed after each removal. DIN 7716 must be observed. Information on handling, storage & transport can be found in the safety data sheet.

SAFETY MEASURES

The safety data sheets for the individual components and the legal regulations for handling hazardous substances must be observed. The prescribed personal protective equipment must be worn. Information on disposal can be found in the safety data sheets for the individual products. The safety data sheets can be downloaded from our homepage in the download area.

PHYSICAL DATA

| Properties | Standard | Unit | Value |
|-----------------------|---------------------------|-------------------|---------------|
| Abrasion | ISO 4649 (ASTM D5963) | mm ³ | ≤ 300* |
| Colour | - | - | black |
| Density | EN ISO 1183-1 (ASTM D792) | g/cm ³ | 1.10 ± 0.02 |
| Elongation at break | DIN 53504 (ASTM D412) | % | ≥ 300** |
| Max. Surface pressure | - | N/mm ² | 2 |
| Peel strength steel | ISO 813 (ASTM D429) | N/mm | ≥ 4 |
| Polymer base | ISO 1629 (ASTM D1418) | - | CIIR |
| Rebound resilience | DIN 53512 | % | ≥ 8* |
| Shore hardness | ISO 48-4 (ASTM D2240) | Shore A | 50 ± 5* |
| Temperature range | - | °C | -40 up to +85 |
| Tensile strength | DIN 53504 (ASTM D412) | N/mm ² | ≥ 8** |

The specified temperatures depend on the existing load and can therefore vary.

* Press vulcanisation ** S2-bar after press vulcanisation

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.