

Application Area

BÜCOLIT® PTFE is a high chemical resistant foil lining on the basis of a modified Fluor synthetic. The system is built up with a base coat, a conductive top layer (corrosion protection and testing layer) and the foil lining. The layer thickness of the corrosion protection is approx. 500 µm thick. The standard layer thickness of foil linings is around 1,5 mm (optional 2,3 mm i.e. in the surface area). BÜCOLIT® PTFE is fixed to the surface as a loose PFA-Lining, partially with a welded thread bolt and special fastening material.

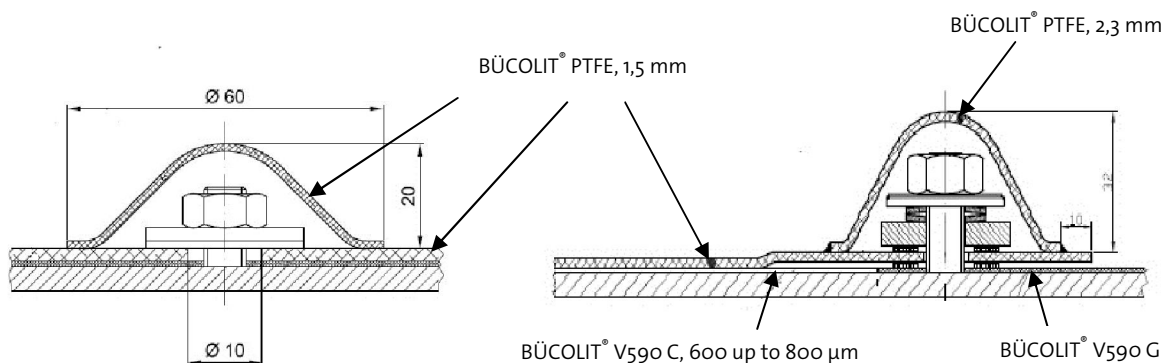
BÜCOLIT® PTFE is a coating system for protection of procedural machines and plant parts made of steel. It is used as high corrosion protection in areas of flue gas ducts, in heat exchangers and in various process tanks. Negative pressure of -20 mbar, or in special cases even up to -50 mbar, can be warranted with the BÜCOLIT® PTFE.

System Characteristics

- very high chemical resistance
- very high temperature resistance
- anti adhesive character

Field of Application

- flue gas ducts
- heat exchanger
- process tanks



Temperature Resistance / Chemical Resistance

BÜCOLIT® PTFE is resistant against high concentrated acid sulfur at a temperature above 100 °C and is especially eligible in areas where the range of performance of resin coating and rubber lining has exceeded. The lining has an almost universal chemical resistance. The temperature limit for an operational demand against chemicals has a max. of 260° C (depending of the profile).

For the corrosion protection type BÜCOLIT V590 C is the temperature limit against chemicals up to 70 °C (wet) and within the gas-phase up to 180 °C. You will find more information about the temperature and / or chemical resistance in our resistance table or can be obtained upon request through our application engineering department.

Eligible Surfaces / Surface Preparation

BÜCOLIT® PTFE is eligible for the lining of steel. The surface demands are according to DIN 14879. According to DIN EN ISO 12944 Part 4 the surface areas must have a standard grade of cleanliness of a min. of Sa 2 ½ and a roughness of 50-70 µm (DIN EN ISO 8503-2).

Mixing Ratio / Curing Time

The mixing ration resin : hardener equals 100 : 2 part by weight. With a working temperature of approx. 20 °C the gel time adds up to approx. 60 minutes. The curing time of the coating at room temperature before further processing, adds up to approx. 6 hours. The time can be reduced with heat treatment (30-40°). During the coating works all sun light has to be avoided.

Consumption Rate

The consumption rate using the standard layer thickness (ca. 0.8 mm):

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|-------------------------------------|------------------------|
| ➤ BÜCOLIT® V590 G -primer | 0,15 kg/m ² |
| ➤ BÜCOLIT® V590 C –top coat (black) | 2,2 kg/m ² |

Depending on the operating conditions the layer thickness can differ.



Form of Delivery Coating Material

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|---------------------------------------|----------------------|
| ➤ BÜCOLIT® V590 G -primer | 10 kg / 20 kg bundle |
| ➤ BÜCOLIT® V590 C –top coat (black) | 10 kg / 20 kg bundle |
| ➤ BÜCOLIT® Hardener Nr. 1 (clear/red) | 400 g bundle |

Material Characteristics of the Resin at Delivery

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| ➤ Viscosity at 25°C | 2.600 to 3.200 mPa s | ISO 2555 |
| ➤ Flash point | 34 °C | DIN 53 213/1 |
| ➤ Specific density | 1.180 bis 1.250 kg/m ³ | DIN 53 217/2 |

Material Characteristics of the Cured Coating

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| ➤ tensile strength | 25 MPa | ISO 527-2 |
| ➤ bending strength | 45 MPa | ISO 178 |
| ➤ pressure strength | 45 MPa | ISO 604 |
| ➤ elongation at break | 0,3 up to 0,5 % | ISO 527 |
| ➤ hardness | 75 Shore D | DIN 5305 |

Material Characteristics of the modified PTFE Foil

Mechanical Properties

➤ Specific density at 20 °C	2,13 up to 2,17 kg/m ³	DIN EN ISO 12086
➤ hardness, shore D	55 up to 60	ISO 868
➤ Tensile Strength	4.600 psi	ASTM D 4894-98a
➤ Elongation at break	450 %	ASTM D 4894-98a
➤ Shrinkage	3,5 %	ASTM D 4894-98a
➤ Tensile Modulus	94,250 psi	ASTM D 638

Thermal properties

➤ Flammability	V-0	UL94
➤ Melt point (initial)	342 ± 10 °C	ASTM D 4894-98a
➤ Melt point (second)	327 ± 10 °C	ASTM D 4894-98a
➤ Service Temperature Range	-200 °C to 260 °C	

Electrical Properties

➤ Dielectric Strength	2.6 kV/mil	ASTM D 149-95a
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Storage Life / Handling

The **BÜCOLIT®** coating products must be stored in a closed, cool and protected of sunlight condition. In an originally packed condition of the bundles, in a temperature up to 20 °C, the storage life adds up to a min. of 3 months. The gel and hardening time can differ depending on storage timing. The **BÜCOLIT® PTFE** products has unlimited shelf life provided it is stored in a clean, dry place in a temperature up to 30 °C. **BÜCOLIT® PTFE** is hydrophobic, and generally do not require drying before processing unless high humidity conditions create surface moisture adsorption. Before processing, it is recommended that the material is stored at least 24 hours in sealed containers in the production room. In particularly low outdoor temperatures storage up to 72 hours in the production space is recommended.