

Application Area

BÜCOLIT® PFA is a high chemical resistant foil lining on the basis of a fluoric plastic lining. 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® PFA** is fixed to the surface as a loose PFA-Lining, partially with a welded thread bolt and special fastening material.

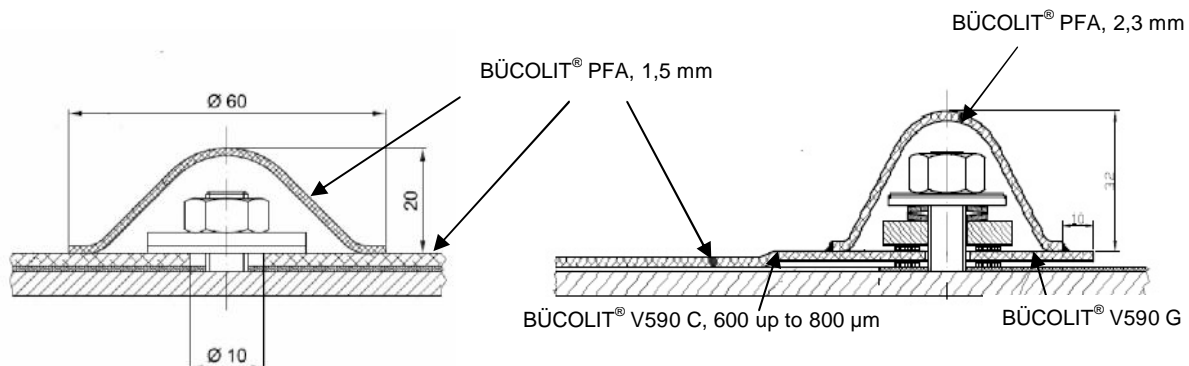
BÜCOLIT® PFA is a coating system for protection of procedural machines and plant parts made of steel. It is used as high corrosion protection in areas of flue gas ducts, in heat exchangers and in various process tanks. Negative pressure of -20 mbar, or in special cases even up to -50 mbar, can be warranted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

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® PFA 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 250° 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® PFA 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 grate 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

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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. 0.5 mm):

➤ BÜCOLIT® V590 G -primer	0,15 kg/m ²
➤ BÜCOLIT® V590 C –top coat (black)	1,1 kg/m ²

Depending on the operating conditions the layer thickness can differ.



Form of Delivery Coating Material

➤ 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

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

Material Characteristics of the Cured Coating

➤ 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 PFA Foil

➤ build up	PFA (Perfluoroalkoxy)	
➤ density at 20 °C	2,13 up to 2,17 kg/m ³	DIN 53497
➤ above limit temperature	250 °C	
➤ hardness, shore D	55 up to 60	DIN53505
➤ elongation at break	> 250 %	DIN53455
➤ tear strength	>22 N/mm ²	DIN 53455
➤ pressure strength	17-22 N/mm ²	ASTM D695
➤ bending-E-modul	670-700 N/mm ²	ASTM D790
➤ coefficient of friction (static)	0,04	ASTM D 1894
➤ heat conductance (20°C):	0,19 W/mK	DIN 52612

➤ fusion point	310 °C	DIN 53736
➤ coefficient of linear expansion	12 X 10 ⁻⁵ 1/K	ASTM D 696
➤ oxygen index	> 95%	ASTM D 2863
➤ fire behavior	V - 0	UL 94
➤ contact resistance	> 1018 Ohm cm	DIN 53482
➤ surface resistance	> 1017 Ohm	DIN 53482
➤ disruptive strength (foil 0,1mm)	> 80 KV/mm	DIN 60093

Storage Life / Handling

The product 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.