

## DEXNYL® Composite PEEK-CF sheet (2<sup>nd</sup>)\_40 Secondary Quality !

## Technical Data Sheet

DEXNYL® Composite PEEK-CF is a secondary quality PEEK-carbon fibre composite sheet made of several layers of woven CF-fabric (approx. 60%) in a PEEK matrix. The sheets have small visual and physical defaults! The composite sheets can be heated above their melting temperature and then stamped in a metallic mould of a press. Excellent price-performance relation.

The sheets have excellent thermal and chemical resistance, as they are made of PEEK (approx. 40%). Other advantages are high compressive strength and superior mechanical stability and stiffness. The first quality composite sheets are not available through BIEGLO.

<u>Product Benefits</u>	<u>Process Benefits</u>
<ul style="list-style-type: none"> <li>• high-performance mechanical properties</li> <li>• continuous use at elevated temperature</li> <li>• low flammability, smoke and toxicity</li> <li>• resistant to chemicals and solvents</li> <li>• room temperature storage and shipping</li> <li>• recyclable</li> </ul>	<ul style="list-style-type: none"> <li>• thermoformable (press forming)</li> <li>• short cycle time</li> <li>• thermoplastic joining technologies</li> <li>• cuttable by water-jet or laser</li> </ul>

<b>Sheet dimension:</b>	800 mm x 1200 mm
<b>Sheet thickness:</b>	6 plies (1,86mm) = ~2,8kg 8 plies (2,48mm) = ~3,8kg 10 plies (3,10mm) = ~4,7kg 12 plies (3,72mm) = ~5,7kg 14 plies (4,34mm) = ~6,7kg 16 plies (4,96mm) = ~7,6kg

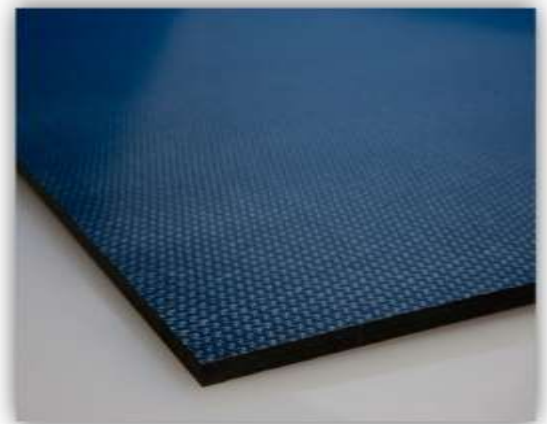
**Fibre** - Carbon Fibre

Density: 1.76 g/cm<sup>3</sup>

**Matrix** - PEEK (Polyetheretherketone) Density: 1.30 g/cm<sup>3</sup>

**Applications:**

- Fixtures
- Seals/Gaskets
- Decorative Parts
- Door Brackets/Hinges





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### Thermoforming recommendations

<b>Heating</b>	Dwell temp.	390 ± 30 °C
	Dwell time	≤ 5 min
<b>Consolidation</b>	temperature	20 – 390 °C
	time	≤ 5 min
	pressure	25 ± 15 bar
<b>Cooling</b>	cool-down rate	≤ 120 °C/min

Properties (test direction)		Conditioning / Test temperature	Typical value
Melting point	Peak	DSC	343 °C
Glass transition temperature	onset	23 °C, 50 % r.h./ 23 °C, 50 % r.h	143 °C
Tensile <sup>(2)</sup> (warp, 0°) ISO 527-4	modulus strength	23 °C, 50 % r.h./ 23 °C, 50 % r.h	60 GPa 963 MPa
Compression <sup>(**)</sup> (warp, 0°) EN 2850 Type B	modulus strength	23 °C, 50 % r.h./ 23 °C, 50 % r.h	59 GPa 725 MPa
Flexural (warp, 0°) EN 2562 Type A	modulus strength	23 °C, 50 % r.h./ 23 °C, 50 % r.h	64 GPa 1166 MPa

<sup>(2)</sup>normalised to nominal thickness (0.31mm)

Stacking sequence: (0,90)<sub>3</sub>/(0,90)<sub>3</sub>



Bahrenfelder Str. 242  
22765 Hamburg  
+49 40 4011 30000  
[info@bieglo.com](mailto:info@bieglo.com)  
[www.bieglo.com](http://www.bieglo.com)

The specified values are established from average values of several tests and they correspond to our today's knowledge. They are only to be used as information about our products and as help for the material selection. With these values, we do not ensure specific properties, or the suitability for certain application, therefore we do not assume any legal responsibility for an improper usage. The used test pieces have been machined from extruded semi-finished material. Since the plastics properties depend on the manufacturing process, on the dimensions of the semi-finished material and on the degree of crystallinity, the actual properties of a specific product may slightly deviate from the tested ones. For information about divergent properties do not hesitate to contact us. On request we advise you regarding the most appropriate component design and the definition of material specifications more suitable to your application data. Notwithstanding, the customer bears all the responsibility for the thorough examination of suitability, efficiency, efficacy and safety of the chosen products in pharmaceutical applications, medical devices or other end uses. Please take into consideration that the export or transfer of carbon fiber products can be subject to authorization, depending on end-use and final destination.

Status: Nov 2020