



<p><b>Availability:</b></p> <p>Rods Dia 20 mm</p> <p>Sheets 10 x 500 x 1000 mm 20 x 500 x 1000 mm</p>	<p><b>Preferred Fields:</b></p> <p>Semiconductor technology Electrical engineering Vacuum technology High precision engineering</p>
<p><b>Material description:</b></p> <p>DIN Abbreviation: PEEK CMF Chemical Designation: Polyetheretherketon Colour, Filler: white, ceramic</p> <p>Multiplast PEEK CMF is new composite of PEEK and a technical ceramic that fully complies with the exacting standards demanded by the semiconductor industry. The material's property profile is unique: due to its exceptionally low water uptake, it offers outstanding hardness and rigidity combined with excellent dimensional stability for very close tolerance.</p> <ul style="list-style-type: none"> <li>• Outstanding thermal stability</li> <li>• Very good hardness and rigidity</li> <li>• Good machinability, very low burring</li> <li>• Good dimensional stability</li> <li>• Low water absorption</li> <li>• Good corrosion resistance</li> <li>• High thermal resistance</li> <li>• Good dielectric properties</li> </ul>	<p><b>Main features:</b></p> <ul style="list-style-type: none"> <li>• good dimensional stability very low moisture absorption</li> <li>• good machinability very low burring</li> <li>• good dielectric properties very good heat deformation resistance</li> <li>• high hardness and rigidity very high thermal capacity</li> <li>• good corrosion resistance</li> </ul>

Properties	Unit	Test method DIN /ISO/ ASTM	Value
<b>Mechanical</b>			
Density	g/cm <sup>3</sup>	53 479	1.6
Tensile strength at yield	Mpa		
Tensile strength at break	Mpa	DIN EN ISO 527	86
Elongation at break	%	DIN EN ISO 527	7
Modulus of elasticity in tension	Mpa	DIN EN ISO 5278	4500
Modulus of elasticity after flexure test	Mpa	DIN EN ISO 178	4500
Ball indentation hardness, 961 N	Mpa	DIN 53456	263
Impact strength 23°C (Charpy)	KJ/m <sup>2</sup>	DIN EN ISO 179	50
Creep rupture strength after 1000 hrs with static load	Mpa		
Time yield limit for 1% elongation after 1000 hrs.	Mpa		
Coefficient of friction against hardened and ground steel p = 0,05 N/mm <sup>2</sup> , v = 0,6 m/s	-		
Wear conditions as above	µm/km		
<b>Thermal</b>			
Crystalline melting point	°C		
Glass transition temperature	°C	53 765	143
Heat distortion temperature			
Method A	°C	ISO-R 75A	219
Method B	°C	ISO-R 75B	260
Max. service temperature			
short term	°C		300
long term	°C		260
Coefficient of thermal conductivity (23°C)	W/(m . K)		0.43
Specific heat (23°C)	J/(g . K)		1.04
Coefficient of thermal expansion (23°C-55°C)	10 <sup>-5</sup> /K	DIN 53752	4.4
<b>Electrical</b>			
			Dry/Moist
Dielectric constant at 10 <sup>6</sup> Hz		ASTM D 150	4.1
Dielectric loss factor at 10 <sup>6</sup> Hz		ASTM D 150	<0.0050
Specific volume resistance	Ω * cm	DIN IEC 60093	>10 <sup>14</sup>
Surface resistance	Ω	DIN IEC 60093	>10 <sup>14</sup>
Dielectric strength	Kv/mm	ASTM D 149	15.2
Tracking resistance			
<b>Miscellaneous</b>			
Moisture absorption: Equilibrium in standard atmosphere (23 °C / 50 % relative humidity)	%	DIN EN ISO 62	<0,1
Water absorption to equilibrium	%		
Resistance to hot water, washing soda			
Flammability			V0
Resistance to weathering			
* after storage in a standard 23/50 atmosphere (DIN 50 014) to equilibrium			

The following information corresponds with our current knowledge and indicates our products and possible applications. We cannot give a legally binding guarantee of certain properties or the suitability for a specific application. Existing commercial patents must be observed. A definitive quality guarantee is given in our general conditions of sales. Unless otherwise stated, these values represent averages taken from compression moulded and semi-finished products samples. We reserve the right of technical alterations.