Polycarbonate GF20 – 20% Glass-Fiber Filled Polycarbonate Machine Grade features: very good dimensional stability, minimal absorption of moisture, good adhesive properties, can be easily printed on, is able to resist high mechanical loads, very high mechanical strength and stiffness, despite high temperatures and mechanical load, the material is only modestly distorted, can be in contact with food (FDA)

	General Properties			
ρ	density	1.35	g/cm^3	DIN EN ISO 1183-1
	flammability	V0/V0	3 mm / 6 mm	UL 94
	absorption of moisture	0.15	%	DIN EN ISO 62
	Mechanical Properties			
σ	yield stress/ tensile strength	90	MPa	DIN EN ISO 527
	tensile elongation	5	%	DIN EN ISO 527
E	tensile modulus of elasticity	5,800	MPa	DIN EN ISO 2039-1
	ball indentation hardness	180	MPa	DIN EN ISO 868
	Shore hardness	86	Skala D	
	Thermal Properties			
	thermal conductivity	0.22	W / (m · K)	DIN 52612-1
	coefficient of linear thermal expansion	30	10-6 K-1	DIN 53752
	service temperature, long term (min.)	-30	°C	Benchmark
	service temperature, long term (max.)	120	°C	Benchmark
	service temperature, short term	180	°C	Benchmark
	heat deflection temperature	138	°C	DIN EN ISO 75 (HDT A)
	Electrical Properties			
ε_r	dielectric constant	3.30		DIN IEC 60250
tanδ	dielectric dissipation factor	0.01		DIN IEC 60250
	specific volume resistivity	10^{15}	Ω · cm	DIN IEC 60093
	surface resistivity	10^{15}	Ω	DIN EN 60093
	comparative tracking index (test solution A)	175		DIN EN 60112
	dielectric strength	35	kV/mm	DIN EN 60243

The following applies to Polyamides: Under the influence of moisture absorption, the mechanical properties change. The material becomes tougher and more resistant to impact, the modulus of elasticity declines. Depending on the environmental atmosphere, the temperature and the period of moisture absorption, only the surface layer ist affected by alterations of property to a certain depth. On thick-walled parts, the center area remains unaffected. The short-term maximum application temperature only applies to very low mechanical stress for a few hours. The long-term maximum application temperature is based on the thermal ageing of plastics by oxidation, resulting in a decrease of the mechanical properties. This applies to an exposure to temperatures for at least 5.000 hours causing a 50% loss of the tensile strength from the original value (measured at room temperature). This value says nothing about the mechanical strength of the material at high application temperatures. In case of thick-walled parts, only the surface layer ist affected by oxidation from high temperatures. With the addition of antioxidants, a better protection of the surface layer is achieved. In any case, the center area of the material remains unaffected. The minimum application temperature ist basically influenced by possible stress factors like impact and/or shock under application. The values stated refer to an minimum degree of impact stress. The electrical properties as stated result from measurements on natural, dry material. With other colours (in particular black) or saturated material, there may be clear differences in the electrical properties.The values indicated result from numerous individual measurements for an approximation of the values and are to our today's knowledge. They serve as information about our products and are presented as a guide to choose from our range of materials. This, however, does not include an assurance of specific properties or the suitability for particular application purposes that are legally binding. Since the properties also depend on the dimension of the semi-finished products and the degree of crystallisation (e.g. nucleating by pigments), the actual values of the properties of a particular product may differ from the indicated values. The mechanical properties of fibre reinforced material were measured on injection molded samples, parallel to fibre direction. Special construction details of further material specifications on request.