

## TECANAT ® GF20 - Stock Shapes

### Chemical Designation

PC (Polycarbonate)

### Colour

blue grey opaque

### Density

1.33 g/cm<sup>3</sup>

### Fillers

glass fibres

### Main features

- high toughness
- good thermal stability
- very high stiffness
- good tensile strength

### Target Industries

- aircraft and aerospace technology
- automotive industry
- fixture construction
- electrical engineering
- mechanical engineering

Mechanical properties	condition	value	test method	comment
Modulus of elasticity (tensile test)	@ 73 °F	700,000 psi	ASTM D 638	(1) Injection molded data
Wear (K) factor	Against Steel, 40 psi, 50 fpm	120*10 <sup>7</sup> in <sup>3</sup> -min/ft-lbs-hr	ASTM D 3702	(1) Data obtained from public source (2) Injection molded data (3) Injection molded data (4) Injection molded data
Tensile strength at yield	@ 73 °F	12,000 psi	ASTM D 638	
Elongation at break	@ 73 °F	4 %	ASTM D 638	
Flexural strength	@ 73 °F	18,000 psi	ASTM D 790	
Modulus of elasticity (flexural test)	@ 73 °F	620,000 psi	ASTM D 790	
Compression strength	@ 1% strain	3,000 psi	ASTM D 695	
Compression strength	@ 10% strain	11,000 psi	ASTM D 695	
Impact strength (Izod)	@ 73 °F	2.06 ft-lbs/in	-	2)
Rockwell hardness	@ 73 °F M Scale	87	ASTM D 785	3)
Coefficient of friction	Dynamic, 40 psi, 50 fpm	0.22	ASTM D 3702	4)
Thermal properties	condition	value	test method	comment
Vicat softening point		329 °F	ASTM D 1525	1)
Deflection temperature	@264 psi	295 °F	ASTM D 648	2)
Deflection temperature	@ 66 psi	298 °F	ASTM D 648	3)
Service temperature	Intermittent	275 °F	-	4)
Service temperature	Long Term	266 °F	-	5)
Thermal expansion (CLTE)		1.5*10 <sup>-6</sup> in/in/°F	ASTM D 696	
Electrical properties	condition	value	test method	comment
Volume resistivity		1.0*10 <sup>17</sup> Ω*cm	ASTM D 257	1)
Dielectric strength		490 V/mil	ASTM D 149	2)
Dissipation factor	@ 60 Hz, 73 °F	0.0009	ASTM D 150	3)
Dielectric constant	@ 60 Hz, 73 °F, 50% RH	3.17 %	ASTM D 150	4)
Dielectric constant	1 MHz	3.13 %	ASTM D 150	5)
Other properties	condition	value	test method	comment
Moisture absorption	@ saturation, 73 °F	0.29 %	ASTM D 570	1)
Moisture absorption	@ 24 hrs, 73 °F	.16 %	ASTM D 570	2)
Flammability (UL94)		V-0	-	3)

→ Resin specification:  
 ASTM D 3935-09 PC0120G20A33230  
 Shapes specification:  
 ASTM D6098-10 S-PC0100G2010000000

This information reflects the current state of our knowledge and is intended only to assist and advise. It is given without obligation or liability. It does not assure or guarantee chemical resistance, quality of products or their suitability in any legally binding way. Values are not minimum or maximum values, but guidelines that can be used for comparative purposes in material selection. They are within the normal range of product properties and do not represent guaranteed property values. Testing under individual application circumstances is always recommended. Data is obtained from extruded shapes material unless otherwise noted. References to FDA compliance refer to the resins from which the products were made unless otherwise noted. All trade and patent rights should be observed. All rights reserved. Data sheet values are subject to periodic review, the most recent update can be found at [www.ensinger-inc.com](http://www.ensinger-inc.com).