

## TECANAT™ TECANAT™ GF20 (Polycarbonate and glass filled polycarbonate)

TECANAT™ is a natural unfilled polycarbonate that has transparency, excellent impact strength and tensile properties. TECANAT™ GF20 is a 20% glass reinforced polycarbonate with higher temperature and tensile properties than the unfilled TECANAT™. Polycarbonate is an amorphous thermoplastic. Good electrical properties combined with superior impact strength and moderate chemical resistance make this product widely accepted for numerous applications. This product is offered in many popular rod and plate sizes.

- Superior impact strength
- Outstanding mechanical strength and stiffness
- Good electrical properties
- Excellent dimensional stability
- Transparency
- Good machinability

Typical applications include business equipment where gears, rollers, internal mechanical parts, connectors and relays are required. The automotive industry uses polycarbonate materials for pumps, valves, light bezels and instrument panels. It also is applicable to many other industries.

### Primary Specification (Resin) (Typical)

TECANAT™: ASTM-D-3935 PC0110B34720

TECANAT™ GF20: ASTM-D-3935 PC0110G20A00000

### Shapes Specification (Typical)

ASTM-D-6098 S-PC0110

ASTM-D-6098 S-PC0100G20

Property	ASTM Test Method	Units	TECANAT™	TECANAT™ GF20
<b>Physical</b>				
Density	D792	lbs/in <sup>3</sup>	0.0430	0.0434
Specific Gravity	D792	g/cc	1.19	1.2
Water Absorption, @ 24 hours, 73°F @ Saturation, 73°F	D570	%	0.15	0.16
	D570	%	0.35	0.29
<b>Mechanical</b>				
Tensile Strength @ Yield, 73°F	D638	psi	8,000	16,000
Tensile Modulus	D639	psi	300,000	860,000
Elongation @ Break, 73°F	D638	%	50	5
Flexural Strength, 73°F	D790	psi	14,200	19,000
Flexural Modulus, 73°F	D790	psi	340,000	798,000
Compressive Strength	D695	psi	-	-
Izod Impact Strength, 73°F	D256	ft-lbs/in	1.7	2.06
Rockwell Hardness, 73°F	D785	M (R) Scale	70 (118)	-
Shure Hardness	-	D Scale	-	-
Wear Factor Against Steel, 40 psi, 50 fpm	D3702	in <sup>3</sup> /hr x 1/PV	2500 x 10 <sup>-10</sup>	120 x 10 <sup>-10</sup>
Dynamic Coefficient of Friction, 40 psi, 50 fpm	D3702	-	0.38	0.22
<b>Thermal</b>				
Heat Deflection Temperature @ 66 psi @ 264 psi	D648	°F	280	298
	D648	°F	270	295
Coefficient of Linear Thermal Expansion	D696	in/in/°F	3.8 x 10 <sup>-5</sup>	1.5 x 10 <sup>-5</sup>
Maximum Servicing Temperature, Intermittent Long Term	-	°F	275	270
	UL746B	°F	240	266
Specific Heat	-	BTU/lb-°F	0.30	-
Thermal Conductivity	-	-	1.32	-
Vicinate Softening Point	-	°F	310	329
Melting Point	D2133	°F	-	-
Flammability	UL94	-	HB	-
<b>Electrical</b>				
Volume Resistivity	D257	ohm-cm	1.0 x 10 <sup>17</sup>	1.0 x 10 <sup>17</sup>
Dielectric Strength	D149	V/mil	380	490
Dielectric Constant, @ 60 Hz, 73°F, 50% RH @ 1 MHz	D150	-	3.2	3.17
	D150	-	2.96	3.13
Dissipation Factor, @ 60 HZ, 73°F	D150	-	0.0009	0.0009

*NOTE: The information contained herein are typical values intended for reference and comparison purposes only. They should NOT be used as a basis for design specifications or quality control. Contact us for manufacturers' complete material property datasheets. All values at 73°F (23°C) unless otherwise noted.*