ENSINGER-HYDE
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TECANAT™ TECANAT™ GF20

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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 thermo-plastic. 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**
- **Excellent dimensional stability**
- **Good electrical properties**
- **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.

TYPICAL PROPERTY VALUES

	PROPERTIES	ASTM Test Method	Units	TECANAT™	TECANAT™ GF20
PHYSICAL	Density	D792	lbs/in^3	0.0430	0.0434
	Specific Gravity	D792	g/cc	1.19	1.2
	Water Absorption, @ 24 hours, 73°F	D570	%	0.15	0.16
	@ Saturation, 73°F	D570	%	0.35	0.29
MECHANICAL	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	$\frac{in^3}{hr} \times \frac{1}{PV}$	2500 x 10^{-10}	120 X 10^{-10}
		-		-	-
	Static Coefficient of Friction	D3702	-	-	-
	Dynamic Coefficient of Friction, 40 psi, 50 fpm	D3702	-	0.38	0.22
THERMAL	Heat Deflection Temperature @ 66 psi	D648	°F	280	298
	@ 264 psi	D648	°F	270	295
	Coefficient of Linear Thermal Expansion	D696	in/in/°F	3.8 x 10^{-5}	1.5 X 10^{-5}
	Maximum Servicing Temperature, Intermittent	-	°F	275	270
	Long Term	UL746B	°F	240	266
	Specific Heat	-	BTU/lb-°F	0.30	-
	Thermal Conductivity	-	-	1.32	-
	Vicate Softening Point	-	°F	310	329
	Melting Point	D2133	°F	-	-
	Flammability	UL94	-	HB	-
ELECTRICAL	Surface Resistivity	D257	ohm/square	-	-
	Volume Resistivity	D257	ohm-cm	1.0 x 10^{17}	1.0 x 10^{17}
	Dielectric Strength	D149	V/mil	380	490
	Dielectric Constant, @ 60 Hz, 73°F, 50% RH	D150	-	3.2	3.17
	@ 1 MHz	D150	-	2.96	3.13
	@ 20 GHz	D150	-	-	-
	@ 30 GHz	D150	-	-	-
	Dissipation Factor, @ 60 HZ, 73°F	D150	-	0.0009	0.0009

MATERIAL AVAILABILITY

Rods: Diameters: 3/16" to 4-3/4" thickness, 10' length
5" and greater thickness, 5' length

Plates: 1/4" to 4" thickness inclusive are 2' x 4'

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

Profiles, tubes, and special sizes are custom-produced on request.

MEMBER IAPD

ISO 9002 CERTIFIED

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