TAMSHELL MANUFACTURING CORPORATION

- Plastics Machining
- Spring Energized Seals
- Rotary Lip Seals

# Material Data Sheet

| Material: Tecanat™ | Polycarbonate |
|---|---|

Tecanat™ is a natural unfilled polycarbonate that has transparency, excellent impact strength and tesile properties. Polycarbonate is an amorphous thermoplastic material. Good electrical properties combined with superior impact strength and moderate chemical resistance make this product widely accepted for numberous applications. This product is offered in many popular rod and plate sizes.

| Mechanical Properties | ASTM Test Method | Value | Units |
|---|---|---|---|
| Density | D792 | 0.0430 | $lbs/in^3$ |
| Specific Gravity | D792 | 1.19 | g/cc |
| Water Absorption @ 24 hours, 73°F | D570 | 0.15 | % |
| @ Saturation, 73°F | D570 | 0.35 | % |
| Tensile Strength, 73°F | D638 | 8,000 | psi |
| Tensile Modulus | D639 | 300,000 | psi |
| Elongation ( at break), 73°F | D638 | 50 | % |
| Flexural Strength, 73°F | D790 | 14,200 | psi |
| Flexural Modulus of Elasticity, 73°F | D790 | 340,000 | psi |
| Compressive Strength | D695 | | psi |
| Izod Impact Strength, 73°F | D256 | 1.7 | ft-lb/in of notch |
| Rockwell Hardness, 73°F | D785 | M - 70, R -118 | M or R Scale |
| Shure Hardness | | | D Scale |
| Wear Factor Against Steel, 40 psi, 50 fpm | D3702 | $2500 \times 10^{-10}$ | $in.^3$-min/ft.lbs.hr |
| Static Coefficient of Friction | D3702 | | |
| Dynamic Coefficient of Friction, 40 pcs, 50 fpm | D3702 | 0.38 | |
| | | | |
| Thermal Properties | | | |
| Heat Deflection Temperature @ 66 psi | D648 | 280 | °F |
| @ 264 psi | D648 | 270 | °F |
| Coefficient of Linear Thermal Expansion | D696 | $3.8 \times 10^{-5}$ | in./in./°F |
| Continuous Servicing Temperature, Intermittent | | 275 | °F |
| Long Term | UL746B | 240 | °F |
| Specific Heat | | 0.30 | BTU/lb -°F |
| Thermal Conductivity | | 1.32 | |
| Melting Point | D2133 | | °F |
| Flammability | UL94 | HB | (mm) |
| | | | |
| Electrical Properties | | | |
| Surface Resistivity | D257 | | ohm/square |
| Volume Resistivity | D257 | $1.0 \times 10^{17}$ | ohm - cm |
| Dielectric Strength | D149 | 380 | Volts/mil |
| Dielectric Constant, 60 Hz, 73°F, 50% RH | D150 | 3.2 | |
| Dissipation Factor, 60 HZ, 73°F | D150 | 0.0009 | |

**237 Glider Circle, Corona, CA 92880 Phone: (951) 272-9395 Fax: (951) 272-9397**

*The values shown in these and the following charts are typical, average properties. Actual values may differ due to variations in resin formulations and processing methods. These values are obtained from sources believed to be reliable, including the resin manufactures, converters and other published sources. However, they should not be used for specification or design purposes. The above information is provided by Ensinger Hyde.