

TABLE 1: Typical Physical Properties of TUFFAK A Polycarbonate Sheet⁽¹⁾

| Property | ASTM method | Units | All grades |
|--|-------------|--------------------------|--|
| Specific Gravity | D-792 | - | 1.2 |
| Optical | | | |
| Refractive Index | D-542 | - | 1.586 |
| Light Transmittance | D-1003 | % | 85-91 |
| Haze | D-1003 | % | 0.5-2.0 |
| Mechanical | | | |
| Tensile Strength | D-638 | - | - |
| Ultimate | D-638 | psi | 9,500 |
| Yield | D-638 | psi | 8,400 |
| Elongation | D-638 | % | 100 |
| Tensile Modulus | D-638 | psi | 340,000 |
| Flexural Strength | D-790 | psi | 13,500 |
| Flexural Modulus | D-790 | psi | 340,000 |
| Compressive Strength (0.05"/minute) | D-695 | psi | 12,500 |
| Impact Strength | | | |
| Izod (1/8", notched) | D-256 | ft-lbs/ inch of notch | 16 |
| Charpy Impact | D-256 | ft-lbs/1/2" x 1" section | NB |
| Rockwell Hardness | | | |
| | D-785 | - | R118 M70-78 |
| Shear Strength | D-732 | psi | 5,800 |
| Thermal | | | |
| Heat Deflection Temperature Under Load, 264 psi | D-648 | °F | 275 |
| 66 psi | D-648 | °F | 285 |
| Coefficient of Thermal Expansion | D-696 | in/in/°F | 3.8 x 10 ⁻³ |
| Coefficient of Thermal Conductivity | C-177 | BTU/hr/sq ft/ °F/in | 1.35 |
| Specific Heat | | BTU/lb/°F | 0.30 |
| Water Absorption (24 hrs at 73°F)* | D-570 | % | 0.15 |
| Equilibrium at 73°F (Long term) | | | 0.35 |
| Equilibrium at 212°F (Long term) | | | 0.58 |
| Electrical | | | |
| Dielectric Constant | D-149 | volts/mil | 380 @ 25°C 450 @ 100°C |
| Test at .125" thick | | | |
| Dielectric Constant | D-150 | | |
| 60 Hz | | | 2.9 |
| 1,000,000 Hz | | | 2.9 |
| Volume Resistivity at 23°C | D-257 | ohm/cm | 10 ¹⁶ |
| Miscellaneous | | | |
| Flammability | D-635 | cm/min | Average Time of Burning: 32 sec Average Extent of Burning: 0.7" |
| Flammability Classification @ 0.054" minimum ⁽²⁾ | UL94 | | 94 HB ⁽³⁾ |

*Test performed on .125"-thick specimens; all other test specimens were .250" thick.

NOTE: NB = No break.

(1) Values reported are averages and should not be used for specification purposes.

(2) TUFFAK S qualifies @ 0.058" minimum.

(3) For grades XL and CM-2, see applicable bulletins for their classification.

These suggestions and data are based on information we believe to be reliable. They are offered in good faith, but without guarantee as conditions and methods of use are beyond our control. We recommend that the prospective user determine the suitability of our materials and suggestions before adopting them on a commercial scale.