

Roll Stock Acrylic Properties

| Physical | Test method | Units | OPTIX | DURAPLEX OPTIX SG05 (50%) | DURAPLEX OPTIX SG10 (100%) |
|-----------------------------------|---------------------------|---------|-------|---------------------------|----------------------------|
| Specific Gravity/Relative Density | ASTM D-792 / ISO 1183 | | 1.19 | 1.17 | 1.15 |
| Optical Refractive Index | ASTM D-542 / ISO 489/A | | 1.49 | | |
| Light Transmission -Total | ASTM D-1003 / ISO 13468-1 | % | 92 | 92 | 90 |
| Light Transmission - Haze | ASTM D-1003 / ISO 14782 | % | 2 | 2 | >3 |
| Sound Transmission | ASTM E90 / E413 | db | 27 | | |
| Water Absorption | ASTM D-570 / ISO 62 | % By wt | 0.4 | 0.3 | 0.3 |
| Mold Shrinkage | ASTM D-955 | mils/in | 2-6 | 3-6 | 3-6 |

| Chemical | Test method | Units | OPTIX |
|--|--------------------------------|-------|-------|
| Resistance to Stress - Critical Crazing Stress to: Isopropyl Alcohol | ARTC Modification of MIL-P6997 | psi | 900 |
| Resistance to Stress - Critical Crazing Stress to: Lacquer Thinner | ARTC Modification of MIL-P6997 | psi | 500 |
| Resistance to Stress - Critical Crazing Stress to: Toluene | ARTC Modification of MIL-P6997 | psi | 1,300 |
| Resistance to Stress - Critical Crazing Stress to: Solvesso 100 | ARTC Modification of MIL-P6997 | psi | 1,600 |

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| Mechanical | Test method | Units | OPTIX | DURAPLEX OPTIX SG05 (50%) | DURAPLEX OPTIX SG10 (100%) |
|---|-------------------------|-----------------------|---------|---------------------------|----------------------------|
| Tensile Strength | ASTM D-638 / ISO 527 | psi | 11,030 | 8,000 | 5,600 |
| Tensile Elongation – Max. | ASTM D-638 / ISO 527 | % | 5.8 | | |
| Tensile Modulus of Elasticity | -- | psi | 490,000 | 340,000 | 250,000 |
| Flexural Strength | ASTM D-790 / ISO 178 | psi | 17,000 | 12,000 | 8,300 |
| Flexural Modulus of Elasticity | ASTM D-790 / ISO 178 | psi | 490,000 | | |
| Izod Impact Strength – Molded Notch | ASTM D-256 / ISO 180 | ft-lb/in Notch | 0.4 | 0.7 | 1.1 |
| Izod Impact Strength – Milled Notch | ASTM D-256 / ISO 180 | ft-lb/in Notch | 0.28 | | |
| Ball Drop Impact | / DIN 52306 | | | Pass | Pass |
| Tensile Impact Strength | ASTM D-1822 | ft-lb/in ² | 20 | | |
| Abrasion Resistance - Change in Haze - 0 cycles | ASTM D-1044 / ISO 9352 | Haze, % | 0 | | |
| Abrasion Resistance - Change in Haze - 10 cycles | ASTM D-1044 / ISO 9352 | Haze, % | 11.2 | | |
| Abrasion Resistance - Change in Haze - 50 cycles | ASTM D-1044 / ISO 9352 | Haze, % | 24 | | |
| Abrasion Resistance - Change in Haze - 200 cycles | ASTM D-1044 / ISO 9352 | Haze, % | 24.9 | | |
| Rockwell Hardness | ASTM D-785 / ISO 2039-2 | | M-95 | M-68 | M-46 |

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| Thermal | Test method | Units | OPTIX |
|--|-------------------------|---------------------------------|---------|
| Maximum Recommended Continuous Service Temperature | | °F | 170-190 |
| Softening Temperature | | °F | 210-220 |
| Melting Temperature | | °F | 300-315 |
| Melt Flow Rate | ASTM D-1238 | g/10 min. | 1.5 |
| Deflection Temperature @ 264 psi (1.8 MPa) | ASTM D-648 / ISO 75-2/A | °F | 203 |
| Deflection Temperature @ 66 psi (0.45 MPa) | ASTM D-648 | °F | 207 |
| Coefficient of Thermal Expansion | ASTM D-696 / ISO 11359 | in/(in-°F) x 10 ⁻⁵ | 3.0 |
| Thermal Conductivity | ASTM C-177 | BTU-ft/(hr-ft ² -°F) | 0.075 |
| Flammability (Burning Rate) | ASTM D-635 | In/minute | 1.019 |
| Flammability | UL 94 / UL 94 | | HB |
| Smoke Density Rating | ASTM D-2843 | % | 3.4 |
| Self-Ignition Temperature | ASTM D-1929 | °F | 833 |
| Flame Spread Index | ASTM E-84 | | 115 |
| Smoke Developed Index | ASTM E-84 | | 550 |

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