

H T**L T****HIGH TEMPERATURE LIGHT TRANSMISSIBLE THERMOPLASTICS & ADDITIVES****HTLT™ 1070 AA Thermoplastic**

HTLT 1070 AA resin is a transparent, organic/inorganic, amorphous thermoplastic. It is a tough, impact resistant, high-temperature thermoplastic that can be injection molded with precision detail. The HTLT 1070 AA has an index of refraction of 1.55, high visible light transmission and a sustained operating temperature up to 150⁰ C. Given its high glass transition temperature, optical lens parts are suitable for use in solder reflow processes including lead-free solder reflow applications up to 285⁰ C oven air temperatures. For lead free solder reflow use, consult with a Suncolor representative. The HTLT 1070 AA has been formulated to optimize thermal, photolytic, and hydrolytic oxidation resistance. **HTLT 1070AA is differentiated from other HTLT grades by the incorporation of thermally conductive particles that contribute to uniform stress relief and dimensional stability.**

PROPERTY*:

Specific Gravity, g/cc
 Melt Temperature, ⁰C **
 Melt Flow @ 330⁰C (626 F), 2.16 kg, (ASTM D 1238)
 Glass Transition Temperature (⁰C):
 (⁰C) (DMTA)(2⁰/min. ramp)
 (⁰C) (DMTA)(4⁰/min. ramp/est.)
 Mold Shrinkage (%)
 Coefficient of Linear Thermal Expansion
 flow/cross flow, ASTM D 696 in/in/⁰F
 Ball Indentation Hardness (ISO 2039-1)
 Unnotched Izod Impact (23⁰ C, 3.18 mm, ASTM D256)
 Tensile Elongation @ break, %
 Tensile Elongation @ yield, %
 Tensile Modulus (1 mm/min; ASTM 638 lb/in²)
 UL94 Flame Class (UL 94, Class, 1.5 mm thickness)
 Water Absorption, 24 hour immersion
 85/85 (85 % r.h & 85⁰ C, 1000 hrs.)

HTLT 1070 AA

1.12
 > 300 (572 F)
 4.0-6.0 (g/10 min.)
 230⁰
 265⁰
 270⁰
 0.9 – 1.0
 3.9 E-05
 115 Mpa
 No Break (J/m)
 50.0
 7.0
 330,000
 HB
 < 0.10 %
 Pass

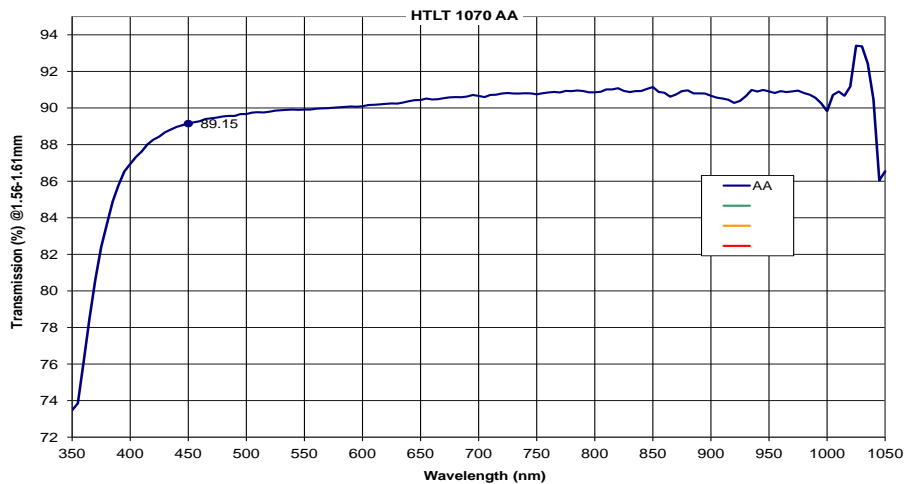
Electrical Properties (23⁰ C/50 % r.h.):

Dissipation Factor, 60 Hz (ASTM D 150) 0.001
 Tinfoil Electrodes,
 Volume Resistivity ((ASTM D 257, Ohm*m) 1.0 E+16
 Tinfoil Electrodes,
 Surface Resistivity (ASTM D 257, Ohm) 1.0 E+16
 Tinfoil Electrodes,
 Dielectric Constant (ASTM D 150, 60 Hz) 2.9
 Dielectric Constant (ASTM D 150, 1 MHz) 2.9

* HTLT 1070 thermoplastics property values are approximate/extrapolated in some cases.

Typical Optical Properties:

| | |
|--|-----------------------------|
| Index of Refraction | 1.55 |
| Transmittance (1.0 mm), 585 nm, % | 89.0 |
| Luminous Transmittance, Max.Theoretical Value, % | |
| 400 nm | 83.0 |
| 850 nm | 90.0 |
| 1000 nm | 90.2 |
| Abbe Number | 33.5 |
| UV Transmission Cut-Off | 360 nm |
| Haze | 2.0-3.0 thickness dependent |
| Yellowness Index/1000 microns (Clear Transparent Material) | < 1.0 |



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International Patents Pending

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