

H T**L T****HIGH TEMPERATURE LIGHT TRANSMISSIBLE THERMOPLASTICS & ADDITIVES****HTLT™ 7300 Thermoplastic**

HTLT 7300 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 7300** has an index of refraction of 1.55, visible light transmission in excess of ordinary glass, and a sustained operating temperature up to 200° C. Given its high glass transition temperature and excellent thermal insulation properties, HTLT parts are suitable for use in solder reflow processes including lead-free solder reflow applications. The **HTLT 7300** has been formulated to optimize thermal, photolytic, and hydrolytic oxidation resistance while exhibiting water-white clarity and 90% transmission at 450 nanometers.

PROPERTY*:

Specific Gravity, g/cc
 Melt Temperature, °C **
 Melt Flow @ 330°C (626 F), 2.16 kg, (ASTM D 1238)
 Glass Transition Temperature:
 (°C) (DMTA)(2°/min. ramp)
 (°C) (DMTA)(4°/min. ramp/est.)
 Mold Shrinkage (%)
 Coefficient of Linear Thermal Expansion
 flow/cross flow, ASTM D 696 in/in/°F
 Ball Indentation Hardness (ISO 2039-1)
 Unnotched Izod Impact (23° 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 & 85° C, 1000 hrs.)

HTLT 1070

1.12
 > 300 (572 F)
 4.0-6.0 (g/10 min.)
 262⁰
 265⁰
 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 (23° 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

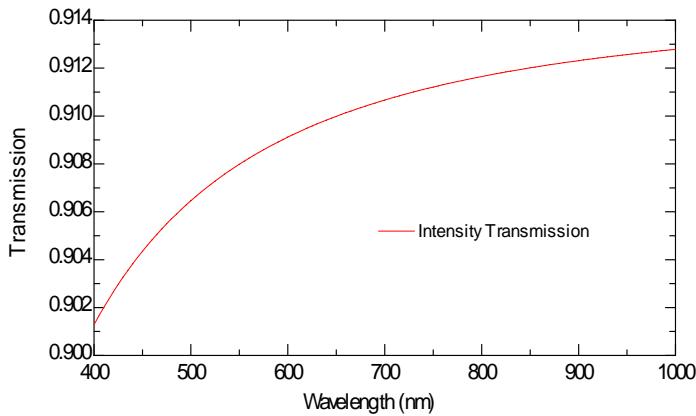
* HTLT 7300 thermoplastics are experimental, developmental products and property values are approximate/extrapolated in some cases.

** HTLT 7300 is fully amorphous. TGA studies demonstrate that HTLT resins are thermally stable, exhibiting no oxidation, below 407° C.

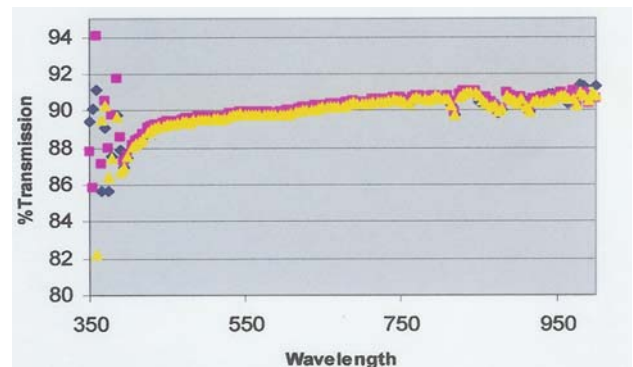
Estimated Optical Properties:

Index of Refraction	1.55
Transmittance (1.0 mm), 585 nm, %	91.3
Luminous Transmittance, Max.Theoretical Value, %	
400 nm	90.1
700 nm	91.0
1000 nm	91.2
Abbe Number	33.5
UV Transmission Cut-Off	360 nm
Haze, 1000 microns thickness	0.6
Yellowness Index/1000 microns (Clear Transparent Material)	0.6

HTLT THEORETICAL TRANSMISSION
(Thin Film/Parrell Sides/Perfect Optical Finish)



PROJECTED TRANSMISSION (1.0 mm Thick)*
(Transmission vs. Wavelength)



REFRACTIVE INDEX vs. WAVELENGTH (Extrapolated from Actual/589.93 nm/1.5550)

Wavelength (nm)	410.47	435.8	480.39	589.93	643.85
Refractive Index	1.5844	1.5776	1.5685	1.5550	1.5509

REFRACTIVE INDEX @ 589.3 nm vs. TEMPERATURE (Extrapolated from Actual/20⁰C/1.5550)

Temperature (°C)	-40	-25	0	20	40	60	85	100
Refractive Index	1.5590	1.5579	1.5565	1.5550	1.5530	1.5510	1.5470	1.5454

SUNCOLOR CORPORATION

1325 IRONDALE CIRCLE N. E., NORTH CANTON, OHIO 44720

Tel: (330) 499-7010/ Fax: (330) 499-3692

CONTACT CUSTOMER SERVICE: Mary Zink, mzink@suncolorcorp.com or 330.327.2997

September 2007 • Patents Pending