OPTIX NB - Noise Barrier Acrylic Properties

Physical	Test method	Units	OPTIX NB
Specific Gravity/Relative Density	ASTM D-792 / ISO 1183		1.19
Optical Refractive Index	ASTM D-542 / ISO 489/A		1.49
Light Transmission -Total	ASTM D-1003 / ISO 13468-1	%	>91
Light Transmission - Haze	ASTM D-1003 / ISO 14782	%	<3
Sound Transmission	ASTM E90 / E413	db	>30
Water Absorption	ASTM D-570 / ISO 62	% By wt	0.3
Mold Shrinkage	ASTM D-955	mils/in	2-6

Chemical	Test method	Units	OPTIX NB
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

Mechanical	Test method	Units	OPTIX NB
Tensile Strength	ASTM D-638 / ISO 527	psi	10,100
Tensile Elongation – Max.	ASTM D-638 / ISO 527	%	5.8
Tensile Modulus of Elasticity	--	psi	479,000
Flexural Strength	ASTM D-790 / ISO 178	psi	14,600
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
Izod Impact Strength – Milled Notch	ASTM D-256 / ISO 180	ft-lb/in Notch	0.28
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

Thermal	Test method	Units	OPTIX NB
Maximum Recommended Continuous Service Temperature		°F	170-190
Softening Temperature		°F	210-220
Melting Temperature		°F	300-315
Deflection Temperature @ 264 psi (1.8 MPa)	ASTM D-648 / ISO 75-2/A	°F	>190
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

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.