OPTIX DA - Digital Acrylic Sheet

Typical Properties

Physical	TEST METHOD	UNITS	OPTIX DA
Specific Gravity/Relative Density	ASTM D792		1.19
Optical Refractive Index	ASTM D542		1.49
Light Transmission -Total	ASTM D1003	%	92
Light Transmission - Haze	ASTM D1003	%	2
Sound Transmission	ASTM E90 / E413	dB	27
Water Absorption	ASTM D570	%	0.4

Mechanical	TEST METHOD	UNITS	OPTIX DA
Tensile Strength	ASTM D638	psi	11,030
Tensile Elongation – Max.	ASTM D638	%	5.8
Tensile Modulus of Elasticity	--	psi	490,000
Flexural Strength	ASTM D790	psi	17,000
Flexural Modulus of Elasticity	ASTM D790	psi	490,000
Izod Impact Strength – Molded Notch	ASTM D256	ft-lb/in Notch	0.4
Izod Impact Strength – Milled Notch	ASTM D256	ft-lb/in Notch	0.28
Tensile Impact Strength	ASTM D1822	$ft\text{-}lb/in^2$	20
Abrasion Resistance - Change in Haze - 0 cycles	ASTM D1044	Haze, %	0
Abrasion Resistance - Change in Haze - 10 cycles	ASTM D1044	Haze, %	11.2
Abrasion Resistance - Change in Haze - 50 cycles	ASTM D1044	Haze, %	24
Abrasion Resistance - Change in Haze - 200 cycles	ASTM D1044	Haze, %	24.9
Rockwell Hardness	ASTM D785		M-95

Thermal	TEST METHOD	UNITS	OPTIX DA
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 D648	°F	203
Deflection Temperature @ 66 psi (0.45 MPa)	ASTM D648	°F	207
Coefficient of Thermal Expansion	ASTM D696	in/in/°F	$3.0x10^{-5}$
Thermal Conductivity	ASTM C177	$BTU\text{-}ft/ft^2/hr/°F$	0.075
Flammability (Burning Rate)	ASTM D635	in/minute	1.019
Flammability	UL 94		HB
Smoke Density Rating	ASTM D2843	%	3.4
Self-Ignition Temperature	ASTM D1929	°F	833
Flame Spread Index	ASTM E84		115
Smoke Developed Index	ASTM E84		550

Chemical	TEST METHOD	UNITS	OPTIX DA
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

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.

Questions? Please contact Plaskolite Customer Support 800-848-9124

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