

		Styrene	Polyphenylene Oxide-Styrene	Polyphenylene Oxide-Styrene 30% glass filled	Nylons					Polyethylene													Clear Materials				
Property	Units	ABS	Noryl	Noryl 30% glass filled	Nylon MD	Nylatron, Unfilled®	Nylon NSM	Nylon GSM	King Starboard Marine Grade	HDPE	UHMW	LDPE	Polysulfone	Polypropylene	Delrin® Acetal	Property	PVC Type 1	Hydex® 4101 4101L	PET-P	PEEK	Teflon	Properties	Properties for clear materials	Polycarbonate aka Lexan®, Hyzod®	Perspex	Acrylic	PALSUN® PALTUF® Polycarbonate
Water Absorption (24 Hours)	%	0.3	.07	.06	1.2	1.2	.25	1.2	-	.03	.01		.30	.008	.25	Water Absorption (24 Hours)	.10	.07	.7	.15	-	Water Absorption (24 Hours)	Water Absorption (24 Hours)	.02	.03	.03	.02
Water Absorption (Saturation)	%	0.7	.20	-	6.5	9.0	7.0	6.5	-		.01		-	-	.90	Water Absorption (Saturation)	-	-	.5	-	-	Water Absorption (Saturation)	Water Absorption (Saturation)	-	-	-	-
Tensile Strength (73 °F)	PSI	6,500	9,600	17,800	12,500	12,400	11,000	12,500	3,800	4,600	4,750			4,800	10,000	Tensile Strength (73 °F)	7,000	9,400 7,200L	12,400	14,500	3,350	Tensile Strength (73 °F)	Tensile Strength (73 °F)	10,500	10,000	10,000	65 MPa
Flexural Strength (73 °F)	PSI	11,000	13,500	20,000	16,400	14,000	16,000	16,400		1,400	3,500			7,000	14,300	Flexural Strength (73 °F)	12,500	-	-	24,650	no break	Flexural Strength (73 °F)	Flexural Strength (73 °F)	12,000	17,000	17,000	
Compressive Strength (10% Deflection)	PSI	6,750	-	-	10,000	12,000	14,000	10,000		4,570	-		4,000	6,720	18,000	Compressive Strength (10% Deflection)	10,830	-	15,000	17,000	-	Compressive Strength (10% Deflection)	Compressive Strength (10% Deflection)	11,000			
Shear Strength (73 °F)	PSI	-	-	-	11,000	9,600	10,000	11,000		3,380	-			5,710	9,500	Shear Strength (73 °F)	9,240	-	8,000	7,690	-	Shear Strength (73 °F)	Shear Strength (73 °F)	9,200			
Impact Strength, Notched Izod (73 °F)	Ft-Lbs/In.	-	5.0	2.3	.8 - 1.0	1.2	0.5	.8 - 1.0		3	no break		1.2	1.9	1.5	Impact Strength, Notched Izod (73 °F)	1.3	.7	.6	1.6	-	Impact Strength, Notched Izod (73 °F)	Impact Strength, Notched Izod (73 °F)	13	.9	.9	
Property	Units	ABS	Noryl	Noryl 30% glass filled	Nylon MD	Nylatron, Unfilled®	Nylon NSM	Nylon GSM	King Starboard	HDPE	UHMW		Polysulfone	Polypropylene	Delrin Acetal	Property	PVC-1	Hydex® 4101 4101L	PET-P	PEEK	Teflon	Properties	Properties for clear materials	Polycarbonate aka Lexan	Perspex	Acrylic	PALSUN® PALTUF® Polycarbonate
Elongation at Break (73 °F)	%	20	30	-	50	90	20	50	>500	55	325			-	60	Elongation at Break (73 °F)	25	-	20	50	210	Elongation at Break (73 °F)	Elongation at Break (73 °F)	100	5	5	
Tensile Modulus of Elasticity (73 °F)	PSI	320,000	350,000	-	400,000	400,000	410,000	400,000	120,000	170,000	90,000		360,000	190,000	450,000	Tensile Modulus of Elasticity (73 °F)	410,000	420,000 380,000L	423,000	580,000	70,000	Tensile Modulus of Elasticity (73 °F)	Tensile Modulus of Elasticity (73 °F)	320,000	-		
Flexural Modulus of Elasticity (73 °F)	PSI	330,000	360,000	1,100,000	400,000	410,000	475,000	400,000	120,000	200,000	110,000		390,000	180,000	425,000	Flexural Modulus of Elasticity (73 °F)	420,000	420,000 390,000L	-	594,500	100,000	Flexural Modulus of Elasticity (73 °F)	Flexural Modulus of Elasticity (73 °F)	375,000	400,000	400,000	
Hardness - Rockwell & Burnell (73 °F)	Various Scales	R105	R119	L108	R120	R120	R110	R120	68 Shore D	D69	R64		R92	R92	R120	Hardness - Rockwell & Burnell (73 °F)	R112	-	M95	R126	R15	Hardness - Rockwell & Burnell (73 °F)	Hardness - Rockwell & Burnell (73 °F)	R118		M-93	
Density	Lbs/cubic In	0.037	.039	.049	0.041	0.0415	0.0415	.0418	.0347	.034	.034			.032	.051	Density	0.053	.0473	.050	.047	.079	Density	Density	.043	.044	.044	.043
Coefficient of Friction (Dynamic)	None	-	.39	-	.35	0.35	.18	.35			.12			-	.25	Coefficient of Friction (Dynamic)	-	.25 .11 L	.20	.34	0.07	Coefficient of Friction (Dynamic)	Coefficient of Friction (Dynamic)	-			
Wear Factor (K)	In-min/ Ft-Lbs-Hr	-	-	-	8	72		83			111			-	216	Wear Factor (K)	-	210 38 L	67	200	-	Wear Factor (K)	Wear Factor (K)	-	-		
Limiting PV	PSI/ FPM	-	-	-	3,000	2,700	12,300	3,000			2,000			-	2,700	Limiting PV	-	6,000 15,700 L	3,000	20,000	-	Limiting PV	Limiting PV	-	-		
Property	Units	ABS	Noryl	Noryl 30% glass filled	Nylon MD	Nylatron, Unfilled®	Nylon NSM	Nylon GSM	King Starboard	HDPE	UHMW		Polysulfone	Polypropylene	Delrin Acetal	Property	PVC-1	Hydex® 4101 4101L	PET-P	PEEK	Teflon	Property	Properties for clear materials	Polycarbonate aka Lexan	Perspex	Acrylic	PALSUN® PALTUF® Polycarbonate
Abrasion Resistance Index	None	-	-	-	-	54	-	-			10			-	137	Abrasion Resistance Index	-	-	-	55	78	Abrasion Resistance Index	Abrasion Resistance Index	-	-	-	-
Coefficient of Linear Thermal Expansion	In/In/F	4.0x10 <sup>5</sup>	3.3x10 <sup>5</sup>	1.4x10 <sup>5</sup>	5.0x10 <sup>5</sup>	5.0x10 <sup>5</sup>	5.9x10 <sup>3</sup>	5.0x10 <sup>5</sup>	1/32" / foot / 40 degrees F, or 6 x 10 <sup>5</sup>	1.25x10 <sup>4</sup>	7.2x10 <sup>5</sup>		3.1 x 10 <sup>5</sup>	1.20x10 <sup>4</sup>	5.0x10 <sup>5</sup>	Coefficient of Linear Thermal Expansion	7.3x10 <sup>5</sup>	-	-	2.6x10 <sup>5</sup>	6.5x10 <sup>5</sup>	Coefficient of Linear Thermal Expansion	Coefficient of Linear Thermal Expansion	3.9 x 10 <sup>5</sup>	1.3 x 10 <sup>5</sup>	1.3 x 10 <sup>5</sup>	

Continuous Service Temperature - in Air (max.)	F	185	220	220	212	212	200	212	160	180	160				-	180	Continuous Service Temperature - in Air (max.)	160	221	212	480	500	Continuous Service Temperature - in Air (max.)	Continuous Service Temperature - in Air (max.)	475	180	180	248	
Deflection Temperature (264 PSI)	F	220	265	265	200	194	200	200		151	116			345		260	Deflection Temperature (264 PSI)	154	200	215	320	115	Deflection Temperature (264 PSI)	Deflection Temperature (264 PSI)	539	-	-	266	
Melting Point	F	-	310	310	430	491	420	430	250		-					347	Melting Point	360	-	491	640	621	Melting Point	Melting Point	-	-	-	-	
Deformation Under Load (2000 PSI, 122 °F)	%	-	-	-	.75	2.0	-	.75			7					.60	Deformation Under Load (2000 PSI, 122 °F)	-	-	-	-	5	Deformation Under Load (2000 PSI, 122 °F)	Deformation Under Load (2000 PSI, 122 °F)	-	-	-	-	
Dielectric Strength	Volts/Mil	450	500	530	550	400	-	550		500	-		425			380	Dielectric Strength	552	-	385	-	-	Dielectric Strength	Dielectric Strength	840				
<b>Property</b>	<b>Units</b>	ABS	Noryl	Noryl 30% glass filled	Nylon MD	Nylatron, Unfilled®	Nylon NSM	Nylon GSM	King Starboard	HDPE	UHMW		Polysulfone	Polypropylene	Delrin Acetal	<b>Property</b>	PVC-1	Hydex® 4101 4101L	PET-P	PEEK	Teflon	<b>Property</b>	<b>Properties for clear materials</b>	Polycarbonate aka Lexan	Perspex	Acrylic	PALSUN® PALTUF® Polycarbonate		
Dielectric Constant (1 kHz)	None	2.87	-	-	3.7	4.1	-	3.7			-					3.7	Dielectric Constant (1 kHz)	-	-	-	-	-	Dielectric Constant (1 kHz)	Dielectric Constant (1 kHz)	4.4	3	3		
Dielectric Constant (1 MHz)	None	-	-	-	3.7	4.0	-	3.7			-					3.7	Dielectric Constant (1 MHz)	-	-	-	-	-	Dielectric Constant (1 MHz)	Dielectric Constant (1 MHz)	4.2	3	3		
Dielectric Constant (60 Hz)	None	-	2.7	3.2	3.7	3.4	-	3.7		2.65	2.3		3.15	2.3		3.7	Dielectric Constant (60 Hz)	4.0	-	3.3	3.3	-	Dielectric Constant (60 Hz)	Dielectric Constant (60 Hz)	-	3	3		
Volume Resistivity	Ohm-CM		10-17	10-17						1x10 <sup>15</sup>				1x10 <sup>17</sup>			Volume Resistivity						Volume Resistivity	Volume Resistivity	6 x 10 <sup>16</sup>	-	-		
																								Light Transmittance %	91	92	92	89	
																								Refractive Index %	-	1.49	1.49	-	
																								<b>Properties for clear materials</b>	<b>Polycarbonate</b> aka Lexan	<b>Perspex</b>	<b>Acrylic</b>	<b>PALSUN® PALTUF®</b> Polycarbonate	
																								Haze %	-	5	5		
																								Haze 24 days @ 104°F	-	-	-		
																								Self Ignition Temp.	-	830	830		
																								Flammability burn rate 1/8" thick inch/min	-	1.0	1.0		
																								Forming Temp	-	300	300		
																								Specific Gravity			1.19	1.2	