	(UVT) Ultra-Violet Transmitting	Solacryl [tests based on .187"]	SAR (Super Abrasion Resistant)	MP 1.25 (UL 752 Level 1)	SAR HP 1.25 (UL 752 Level 2)	SP 1.25 (UL 752 Level 3)	Poly FR9 (.060")	Poly 900 (DTD-5592-UK)	Poly II (Mil-P-5425)
				9mm	.357 Magnum	.44 Magnum			
	1.19	1.19	1.19				1.19	1.19	1.19
	11,250 6.4 450,000	8,600 7 400,000	10,000 4.5 427,000	9,500 400,000	9,500 400,000	9,400 400,000	>10,500 4.5 450,000	11,250 6.2	11,250 6.4
	15,250 475,000		16,000 450,000					15,250 475,000	15,250 475,000
	18,000 440,000		17,900 427,000	400,000	400,000	400,000		18,000 440,000	18,000 440,000
	0.75							0.75	0.75
	9,000		8,900					9,000	9,000
	0.375" 18		0.375" 18						
	M98"		M100"				M96"	M98"	M98"
	50"							50"	50"
	2.2	2.2	2.2	2.2	2.2		<1	2.2	<1
	1.49	1.49	1.43***				1.49	1.49	1.49
	92 <0.5	92 <1	93 0.5	>90 <1.0 <0.7	>90 <1.0 <0.7	>85 <1.5 <1.0	92 <0.5	92 <0.5	92 <0.5
								92 <0.5	92 <0.5
								none	none
	>80		0-5	0	0	0	0	0	0
								2,100 1,350 NA 1,460 1,200 NA	2,100 1,100 0 1,000 0 0
			1.5 2.3		1.5 2.3				
	320 **	300 **	223 **	320 **	320 **			320 **	320 **
	230" 203"	200"	200					230"	216"
	180	155	176	170 -26	170 -26	170 -26		180	180
	0.000042 1.3	0.000042	0.000042 1.45	0.000042 1.3	0.000042 1.3			0.000042 1.3	0.000042 1.3
	0.65 0.2 1.2"	0.2 1.2"	0.2 0.98	0.2 1.2"	0.2 1.2"	0.2 .23"	0.65 0.2 <0.3	0.65 0.2 1.2"	0.65 0.2 1.2"
	830"	830"	870"	870	870				830"
	0.35 27**	0.35	0.35 13.9	0.35 Max:8%; Rating 5%	0.35 Max:8%; Rating 5%	Max:65%; Rating 49%	0.35 Max:13%; Rating 23.2%	0.35	0.35 27**

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Mechanical Properties	Test Method	Unit	Poly 84 (Mil-P-8184)	Poly 76 (Mil-P-8184)	Poly 2000 (Mil-P-25690; Class 1)	Poly 2000 (Mil-P-25690; Class 2)
Ballistic Protection						
Specific Gravity	ASTM-D-792		1.19	1.19	1.19	1.19
Tensile Strength	ASTM-D-638					
Yield		psi	11,250	11,250	12,100	12,100
Elongation, Rupture		%	4.0	4.0		
Modulus of Elasticity		psi				
Flexural Strength	ASTM-D-790					
(Rupture)		psi	15,250	15,250		
Modulus of Elasticity		psi	475,000	475,000		
Compressive Strength	ASTM-D-695					
(Yield)		psi	18,000	18,000		
Modulus of Elasticity		psi	440,000	440,000		
Compressive Deformation (Under Load)	ASTM-D-621					
4000 PSI 122F, 24hr		%	0.75	0.75		
Sheer Strength	ASTM-D-732	psi	9,000	9,000	3,700	3,700
Impact Strength						
Izod Milled Notch	ASTM-D-256	ft. lbs/in. of notch				
Falling Steel Ball, 0.5lb. (Breakage drop height (ft.)						
Rockwell Hardness	ASTM-D-785		M98*	M98*		
Barcol Hardness	ASTM-D-2583		50*	50*		
Residual Shrinkage (Internal Strain)	ASTM-D-4802					
Polycast		%				
Polycast Mil Spec		%	<1	<1		
Optical Properties						
Refractive Index	ASTM-D-542		1.49	1.49	1.49	1.49
Luminous Transmittance (As Cast)	ASTM-D-1003					
Total		%	92	92		
Haze			<0.75	<0.75	91	91
Yellowness Index	ASTM-D-1925				<1.5	<1.5
After 1000 hrs. Accelerated Weathering	ASTM-D-1449					
Total		%	91	91	90	90
Haze			<0.75	<0.75	<3.0	<3.0
Effect Of Accelerated Weathering-On Appearance	ASTM-D-1449					
Crazing / Discoloration / Warping			none	none		
Ultraviolet Transmission @ 320nm		%	0	0		
Craze Resistance	Mil-P-8184	psi				
DRY IPA			3,225	3,100	3,700	4,300
Lacquer Thinner			3,030	3,150	3,300	3,600
Sulfuric Acid			1,550	1,285		
WET IPA			2,775	2,440	2,750	3,600
Lacquer Thinner			2,700	2,450	2,650	3,000
Sulfuric Acid			1,020	500		
Abrasion Resistance (Reported as increase in % haze)						
Taber Abrasion (500g. ea. wheel, 100 rev.) ANSI Z26.1	ASTM-D-1044					
Mar Resistance	ASTM-D-637					
Thermal Properties						
Hot Forming Temperature		deg. Fahrenheit	320 **	320 **	218**	218**
Deflection Temperature under load	ASTM-D-648					
(Heat Distortion Temp.)						
66 psi		deg. Fahrenheit				
264 psi		deg. Fahrenheit	221*	234*		
Maximum Recommendaed Continuous Service Temp.		deg. Fahrenheit	180	180		
Minimum Recommended Continuous Service Temp.						
[lowest temp. tested for bullet-resistance]						
Coefficient of Linear Thermal Expansion	ASTM-D-696	in./in./deg. F	0.000042	0.000042	0.000042	0.000042
Coefficient of Thermal Conductivity	Cento-Fitch	BTU/(Hr.) (Sq.Ft.) (deg. F/in.)	1.3	1.3	1.3	1.3
Thermal Relaxation						
@ 230 deg. F	Mil-P-25690	%			3.3	3.3
@ 293 deg. F	Mil-P-25690	%			45	45
Water Absorption	26 day immersion	%	1.6	2.6	2.6	1.6
	24 hour immersion	%	0.2	0.2	0.2	0.2
Flammability (Burning Rate) UL94HB	ASTM-D-635	in./min.	0.8*	0.8*		
Self-ignition Temperature	ASTM-D-1929	deg. Fahrenheit				
Specific Heat @ 77°F	DuPont 900 (Therm. An. Cal.)	BTU/(Lb.) (deg. F)	0.35	0.35	0.35	0.35
Smoke Density	ASTM-D-2843	%				
Crack Propagation (Received at STD Conditions)	Mil-P-25690	lbs/in 3/2			2,900	2,900

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			Sign Grade Sheet					
			Crylex High Impact Acrylic	Tuf-Glas Impact Modified Acrylic	Sungard Ultra-Weatherable Polycarbonate	Sta-Tuf High Impact Thermoplastic Alloy	PC-2000 High Impact Polycarbonate	Solarex °K High Heat Weatherable Copolyester
Physical Properties	**Test Method**	**Unit**						
Specific Gravity	ASTM D-792		1.15	1.17	1.20	1.10	1.20	1.22
Tensile Modulus	ASTM D-638	psi	220,000	330,000	350,000	300,000	350,000	290,000
Tensile Strength @ Yield	ASTM D-638	psi	5,500	7,600	9,360	5,500	9,360	8,000
Tensile Strength, Ultimate	ASTM D-638	psi						
Elongation, Ultimate	ASTM D-638	%						
Flexural Modulus	ASTM D-790	psi	270,000	380,000	340,000	330,000	340,000	330,000
Flexural Strength @ Yield	ASTM D-790	psi	10,300	14,000	13,500	8,300	13,500	12,350
Izod Impact	ASTM D-256							
	(73˚F)	ft-lbs/in.	1.1	.6	17.0	2.0	17.0	2.0
	(-40˚F)	ft-lbs/in.				.7		
Falling Dart Impact	ASTM D-3029							
	(73˚F)	ft-lbs	10	6.0	960 (no break)	138	960 (no break)	27
	(-40˚F)	ft-lbs						
Heat Deflection Temperature	ASTM D-648							
	(66 psi unannealed)	˚F						
	(264 psi unannealed)	˚F	170	185	270	185	270	180
Coefficient of Thermal Expansion	ASTM D-696	in/in/˚F x 10^{-5}	5.6	4.5	3.8	5.5	3.8	4.16
Hardness	ASTM D-785	Rockwell R (L)	106	110	118	110	118	115
	ASTM D-2240	Shore D						
Surface Resistivity	ASTM D-257	ohm/Square						
Gardner Gloss	ASTM D-523	%	90	90	90	90	90	85
Performance Rating								
Impact Strength			High	Average	Very High	High	Very High	High
Low Temperature Impact Strength			Low	Low	Average	Low	Average	Average
Flexural Modulus (Stiffness)			Average	High	High	High	High	High
Tensile Strength			High	High	Very High	Average	Very High	High
Heat Deflection Temperature			Average	High	Very High	Average	Very High	Average
Gloss (After Forming)			Very High	Very High	Very High	Very High	Very High	Very High
Chemical Resistance			High	Average	High	High	Average	Average
UV Resistance			Very High	Very High	Very High	Very High	Average	Very High
Hardness			Very High	Very High	Very High	High	Very High	Very High
Formability			Very Good	Very Good	Good	Very Good	Good	Very Good
General								
Flammability Ratings	MVSS 302							
	UL94 HB		Passes	Passes	Passes	Passes	Passes	Passes
	UL94 V-0							
	UL94-5V							
	FAR 25.853B							
	FAR 25.853A							
	OSU Heat Release							
Smoke Rating	UMTA/DOT/FAA							
Toxic Gas Generation	BSS 7239							

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	POLYPEDIC™ MATERIALS, APPLICATIONS AND PROPERTIES				
	Polypedic A	**Modified LDPE**	**Polypedic F**	**Polypedic O**	**Polypedic C**
Material Type	Low-density Polyethylene	Custom Low-density Polyethylene	High-density Polyethylene	Polypropylene Homopolymer	Polypropylene Copopolymer
Applications	Anterior shells for AFOs and KAFOs; TLSOs; passive types of HOs, WHOs and EWHOs	Anterior shells for AFOs and KAFOs; TLSOs; passive types of HOs, WHOs and EWHOs; prosthetic flexible sockets	Neck brace; splints	AFOs; MAFOs; KAFOs; CTLSOs; TLSOs; pelvic bands and joints; pelvic girdles; AK and BK sockets	AFOs; MAFOs; KAFOs; AK and BK sockets; CTLSOs; TLSOs; pelvic bands and joints; pelvic girdles
Material Characteristics	Flexible, lower processing temperature, soft	Flexible, wider window for forming, soft	More rigid, tough, able to withstand cold temperature application	Rigid, strong, fatigue-resistant	Resilient in cold weather, durable, slightly less rigid than Polypedic O
Mold & Set Temperature*	180°F	180°F	180°F	190°F	190°F
Lower Process Limit*	260°F	260°F	260°F	290°F	290°F
Normal Forming Temperature*	275°F	275°F	275°F	310-325°F	310-325°F
Upper Limit Temperature*	331°F	331°F	331°F	331°F	331°F
Typical Shrinkage	2-3%	2-3.5%	2-3.5%	1.5-2%	1.5-2%

* Plastic temperatures (not oven temperatures)