



Optical Lens Material Data Sheet

<i>Property</i>	<i>Units</i>	<i>Acrylic As-Cast</i>	<i>Polycarbonate</i>	<i>SIM 2003B2h</i>	<i>SIM 2003C2h</i>	<i>SIM 2020</i>	<i>SIM 2021</i>	<i>SIM 2025</i>
Physical Properties								
Specific Gravity	-	1.2	1.2	1.14	1.14	1.14 ¹	1.14 ¹	1.14 ¹
Hardness	D scale	92-93	84-86	80-81	80-81	84	85	87
Fischer Microhardness	N/mm ²	184	116	63	63	90	104	112
Bayer Abrasion, 200 cycles	Δ% Haze	43.2	47.9	14.6	14.6	Not Tested	Not Tested	Not Tested
Heat Distortion Temperature (264 psi)	°F °C	212 100	276 136	275 135	300 149	275 135	291 144	315 157
Stress Craze Resistance (isopropyl alcohol)	psi	3,800	4,000	Not Tested	>7,000	Not Tested	Not Tested	Not Tested
Ballistic Data								
V ₅₀ , .22 cal, 17grain, fragment simulating projectile (FSP), .25 -in	ft/sec	775	889	1,198	1,269	1,176	Not Tested	Not Tested
Tensile Test Data								
Break	psi	10,000	9,400	7,000	7,600	9,300	11,700	11,700
Modulus	psi	400,000	340,000	100,000	120,000	205,000	303,000	340,000
Elongation Rupture	%	5	110	300	290	120	38	38
Optical Properties								
Luminous Transmittance	Pct.	91	89	93	93	93 ¹	92	91
Haze	Pct.	1.0	.8	.5	.5	.5 ¹	.1	.13
Refractive Index	-	1.490	1.586	1.538	1.538	1.538 ¹	1.529	1.530
Abbe No.	-	-	27	40	40	40 ¹	44	44

Notes:

¹Property was not measured, but is expected to be similar to SIM 2003.