Product Comparison

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Technical Data

Product Description

LUMID® EG2309B	Chemical Resistance Application Intercooler Tank, Automotive Parts, Radiator Tank Material Type PA66-GF30, PA66-GF30%
Generic Nylon 66 - Glass Fiber	This data represents typical values that have been calculated from all products classified as: Generic Nylon 66 - Glass Fiber This information is provided for comparative purposes only.

General	LUMID® EG2309B	Generic Nylon 66 - Glass Fiber
Manufacturer / Supplier	• LG Chem Ltd.	• Generic
Generic Symbol	• Nylon 66	• Nylon 66
Material Status	• Commercial: Active	• Commercial: Active
Literature [1]	• Technical Datasheet	--
UL Yellow Card [2]	• E353371-10218026 • E302314-10223473	--
Search for UL Yellow Card	• LG Chem Ltd. • LUMID®	--
Availability	• Asia Pacific • Europe • Latin America • North America	• Africa & Middle East • Asia Pacific • Europe • Latin America • North America
Filler / Reinforcement	• Glass Fiber, 30% Filler by Weight	• Glass Fiber
Features	• Chemical Resistant	--
Uses	• Automotive Applications • Tanks	--

Physical	LUMID® EG2309B	Generic Nylon 66 - Glass Fiber	Unit	Test Method
Density / Specific Gravity				
--	1.37	1.18 to 1.58	g/cm³	ASTM D792
--	--	1.19 to 1.58	g/cm³	ISO 1183
23°C	1.37	--	g/cm³	ISO 1183
Apparent (Bulk) Density	--	0.70 to 0.71	g/cm³	ISO 60
Melt Mass-Flow Rate (MFR)				
275°C/2.16 kg	--	6.0 to 31	g/10 min	ASTM D1238
275°C/0.325 kg	--	1.0 to 3.1	g/10 min	ISO 1133
Melt Volume-Flow Rate (MVR) (275°C/5.0 kg)	--	10 to 51	cm³/10min	ISO 1133
Spiral Flow	--	7.30 to 52.0	cm	

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Physical	LUMID® EG2309B	Generic Nylon 66 - Glass Fiber	Unit	Test Method
Molding Shrinkage				
Flow	--	0.10 to 6.4	%	ASTM D955
Flow : 2.00 mm	0.20 to 0.40	--	%	ASTM D955 ISO 294-4
Across Flow	--	0.35 to 2.0	%	ASTM D955
Across Flow : 2.00 mm	0.80 to 1.0	--	%	ASTM D955 ISO 294-4
--	--	3.0E-3 to 1.2	%	ISO 294-4
Water Absorption				
24 hr	--	0.23 to 1.0	%	ASTM D570
24 hr, 23°C	--	0.23 to 1.1	%	ISO 62
Saturation	--	0.010 to 6.1	%	ASTM D570
Saturation, 23°C	--	3.9 to 7.1	%	ISO 62
Equilibrium	--	0.79 to 2.2	%	ASTM D570
Equilibrium, 23°C, 50% RH	1.9	--	%	ASTM D570
Equilibrium, 23°C, 50% RH	1.9	0.93 to 2.2	%	ISO 62
K-Value	--	75.9 to 76.1		ISO 1628-2
Viscosity Number (Reduced Viscosity)	--	143.8 to 150.0	ml/g	ISO 1628
Viscosity Number	--	128 to 151	cm³/g	ISO 307

Mechanical	LUMID® EG2309B	Generic Nylon 66 - Glass Fiber	Unit	Test Method
Tensile Modulus				
--	--	4270 to 14200	MPa	ASTM D638
3.20 mm [4]	12600	--	MPa	ASTM D638
--	--	4720 to 11700	MPa	ISO 527-1
4.00 mm	1.17	--	MPa	ISO 527-1/1
Tensile Strength				
Yield	--	81.0 to 205	MPa	ASTM D638
Yield	--	72.8 to 234	MPa	ISO 527-2
Break	--	79.2 to 221	MPa	ASTM D638
Break, 3.20 mm [4]	177	--	MPa	ASTM D638
Break	--	69.5 to 246	MPa	ISO 527-2
Break, 4.00 mm	185	--	MPa	ISO 527-2/5
Ultimate	--	116 to 200	MPa	ASTM D638
--	--	82.1 to 231	MPa	ASTM D638
--	--	52.0 to 274	MPa	ISO 527-2
Tensile Elongation				
Yield	--	1.9 to 3.6	%	ASTM D638
Yield	--	1.8 to 3.6	%	ISO 527-2
Break	--	1.0 to 4.0	%	ASTM D638
Break, 3.20 mm [4]	3.0	--	%	ASTM D638
Break	--	2.0 to 3.6	%	ISO 527-2
Break, 4.00 mm	3.0	--	%	ISO 527-2/5

Mechanical	LUMID® EG2309B	Generic Nylon 66 - Glass Fiber	Unit	Test Method
Flexural Modulus				
--	--	3610 to 11800	MPa	ASTM D790
3.20 mm [5]	7160	--	MPa	ASTM D790
6.40 mm [5]	8360	--	MPa	ASTM D790
--	--	4030 to 11500	MPa	ISO 178
4.00 mm [6]	8900	--	MPa	ISO 178
Flexural Strength				
--	--	112 to 307	MPa	ASTM D790
3.20 mm [5]	267	--	MPa	ASTM D790
6.40 mm [5]	252	--	MPa	ASTM D790
--	--	122 to 383	MPa	ISO 178
4.00 mm [6]	285	--	MPa	ISO 178
Yield	--	134 to 338	MPa	ASTM D790
Break	--	110 to 342	MPa	ASTM D790
Compressive Strength				
--	--	20.0 to 276	MPa	ASTM D695
--	--	43.0 to 265	MPa	ISO 604
Shear Strength	--	68.5 to 105	MPa	ASTM D732
Poisson's Ratio	--	0.34 to 0.40		ASTM E132
Coefficient of Friction	--	0.18 to 0.59		ASTM D1894
Wear Factor	--	0.0 to 150	10^-8 mm³/N·m	ASTM D3702

Impact	LUMID® EG2309B	Generic Nylon 66 - Glass Fiber	Unit	Test Method
Charpy Notched Impact Strength				ISO 179
--	--	5.7 to 15	kJ/m²	
-30°C, 4.00 mm	9.0	--	kJ/m²	
23°C, 4.00 mm	10	--	kJ/m²	
Charpy Unnotched Impact Strength	--	29 to 100	kJ/m²	ISO 179
Notched Izod Impact				
--	--	36 to 170	J/m	ASTM D256
-30°C, 3.20 mm	74	--	J/m	ASTM D256
-30°C, 6.40 mm	72	--	J/m	ASTM D256
23°C, 3.20 mm	98	--	J/m	ASTM D256
23°C, 6.40 mm	88	--	J/m	ASTM D256
--	--	2.2 to 16	kJ/m²	ISO 180
-30°C, 4.00 mm	9.2	--	kJ/m²	ISO 180
23°C, 4.00 mm	10	--	kJ/m²	ISO 180
Notched Izod Impact (Area)	--	5.63 to 18.2	kJ/m²	ASTM D256
Unnotched Izod Impact				
--	--	340 to 1600	J/m	ASTM D4812
--	--	30 to 91	kJ/m²	ISO 180
Instrumented Dart Impact				
--	--	5.00 to 12.5	J	ASTM D3763
--	--	0.700 to 4.22	J	ISO 6603-2
Multi-Axial Instrumented Impact Peak Force	--	580 to 1110	N	ISO 6603-2

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Impact	LUMID® EG2309B	Generic Nylon 66 - Glass Fiber	Unit	Test Method
Tensile Impact Strength	--	11.3 to 33.3	kJ/m²	ASTM D1822
Hardness	**LUMID® EG2309B**	**Generic Nylon 66 - Glass Fiber**	**Unit**	**Test Method**
Rockwell Hardness				
--	--	114 to 125		ASTM D785
R-Scale	122	--		ASTM D785 ISO 2039-2
--	--	95 to 122		ISO 2039-2
Shore Hardness	--	78 to 81		ISO 868
Ball Indentation Hardness	--	178 to 330	MPa	ISO 2039-1
Thermal	**LUMID® EG2309B**	**Generic Nylon 66 - Glass Fiber**	**Unit**	**Test Method**
Deflection Temperature Under Load				
0.45 MPa, Unannealed	--	249 to 261	°C	ASTM D648
0.45 MPa, Unannealed, 6.40 mm	260	--	°C	ASTM D648
0.45 MPa, Unannealed	--	247 to 264	°C	ISO 75-2/B
0.45 MPa, Unannealed, 4.00 mm	255	--	°C	ISO 75-2/Bf
1.8 MPa, Unannealed	--	219 to 259	°C	ASTM D648
1.8 MPa, Unannealed, 6.40 mm	250	--	°C	ASTM D648
1.8 MPa, Unannealed	--	227 to 259	°C	ISO 75-2/A
1.8 MPa, Unannealed, 4.00 mm	246	--	°C	ISO 75-2/Af
1.8 MPa, Annealed	--	235 to 255	°C	ASTM D648
8.0 MPa, Unannealed	--	70.0 to 236	°C	ISO 75-2/C
Continuous Use Temperature	--	86.9 to 183	°C	ASTM D794
Glass Transition Temperature	--	5.00 to 80.0	°C	ISO 11357-2
Vicat Softening Temperature				
--	--	229 to 261	°C	ASTM D1525
--	249	--	°C	ASTM D1525 [7] ISO 306/B50 [7]
--	--	225 to 255	°C	ISO 306
Melting Temperature				
--	--	253 to 266	°C	
--	--	260 to 265	°C	DSC
--	260	260 to 264	°C	ISO 11357-3
--	260	253 to 260	°C	ASTM D3418
--	--	259 to 261	°C	ISO 3146
CLTE				
Flow	--	1.7E-5 to 7.9E-5	cm/cm/°C	ASTM D696
Flow : -30 to 80°C	2.8E-5	--	cm/cm/°C	ASTM D696 ISO 11359-2
Flow	--	9.1E-6 to 4.3E-5	cm/cm/°C	ASTM E831
Flow	--	1.2E-5 to 4.2E-5	cm/cm/°C	ISO 11359-2
Transverse	--	1.0E-6 to 9.8E-5	cm/cm/°C	ASTM D696
Transverse : -30 to 80°C	9.3E-5	--	cm/cm/°C	ASTM D696 ISO 11359-2
Transverse	--	3.8E-5 to 7.9E-5	cm/cm/°C	ASTM E831
Transverse	--	5.7E-5 to 1.2E-4	cm/cm/°C	ISO 11359-2

Thermal	LUMID® EG2309B	Generic Nylon 66 - Glass Fiber	Unit	Test Method
Specific Heat	--	1240 to 2000	J/kg/°C	ASTM C351
Thermal Conductivity				
--	--	0.19 to 0.57	W/m/K	ASTM C177
--	--	0.20 to 0.40	W/m/K	ISO 8302
RTI Elec				UL 746B
--	--	65.0 to 142	°C	
0.75 mm [8]	65.0	--	°C	
3.0 mm [8]	65.0	--	°C	
RTI Imp				UL 746B
--	--	65.0 to 131	°C	
0.75 mm [8]	65.0	--	°C	
3.0 mm [8]	65.0	--	°C	
RTI Str				UL 746B
--	--	65.0 to 142	°C	
0.75 mm [8]	65.0	--	°C	
3.0 mm [8]	65.0	--	°C	

Electrical	LUMID® EG2309B	Generic Nylon 66 - Glass Fiber	Unit	Test Method
Surface Resistivity				
--	1.0E+14	10 to 2.5E+15	ohms	ASTM D257
--	--	20 to 2.5E+15	ohms	IEC 60093
--	--	1.0E+2 to 6.0E+15	ohms	IEC 62631-3-2
Volume Resistivity				
--	--	1.0E+2 to 2.5E+16	ohms·cm	ASTM D257
23°C	1.0E+14	--	ohms·cm	ASTM D257
--	--	10 to 7.5E+15	ohms·cm	IEC 60093
--	--	1.0E+9 to 1.3E+15	ohms·m	IEC 62631-3-1
Dielectric Strength				
--	--	16 to 25	kV/mm	ASTM D149
23°C, 2.00 mm	23	--	kV/mm	ASTM D149
--	--	18 to 48	kV/mm	IEC 60243-1
Dielectric Constant				
--	--	2.91 to 4.09		ASTM D150
23°C, 1.00 GHz	3.30	--		ASTM D150
--	--	3.47 to 4.11		IEC 60250
--	--	3.69		IEC 60250
--	--	3.75		IEC 62631-2-1
Dissipation Factor				
--	--	0.010 to 0.021		ASTM D150
--	--	6.8E-3 to 0.021		IEC 60250
--	--	9.0E-3 to 0.017		IEC 62631-2-1
Arc Resistance	--	63.5 to 130	sec	ASTM D495
Comparative Tracking Index (CTI)	--	540 to 600	V	UL 746A
Comparative Tracking Index	--	400 to 600	V	IEC 60112

Flammability	LUMID® EG2309B	Generic Nylon 66 - Glass Fiber	Unit	Test Method
Burning Rate	--	0.0 to 100	mm/min	ISO 3795
Flame Rating				UL 94
0.75 mm, ALL	HB	--		
3.0 mm, ALL	HB	--		
Glow Wire Flammability Index	--	649 to 960	°C	IEC 60695-2-12
Glow Wire Ignition Temperature	--	650 to 961	°C	IEC 60695-2-13
Oxygen Index				
--	--	25 to 34	%	ASTM D2863
--	--	23 to 27	%	ISO 4589-2

Fill Analysis	LUMID® EG2309B	Generic Nylon 66 - Glass Fiber	Unit
Melt Density	--	1.12 to 1.28	g/cm³
Ejection Temperature	--	210	°C

Injection	LUMID® EG2309B	Generic Nylon 66 - Glass Fiber	Unit
Drying Temperature	80 to 100	78 to 82	°C
Drying Time	4.0 to 5.0	2.8 to 5.3	hr
Drying Time, Maximum	--	8.0	hr
Dew Point	--	-18	°C
Suggested Max Moisture	0.12	2.0E-3 to 0.63	%
Suggested Shot Size	--	50	%
Suggested Max Regrind	--	25	%
Hopper Temperature	--	70 to 75	°C
Rear Temperature	260 to 270	264 to 289	°C
Middle Temperature	270 to 285	268 to 295	°C
Front Temperature	270 to 290	269 to 300	°C
Nozzle Temperature	270 to 295	269 to 303	°C
Processing (Melt) Temp	270 to 295	267 to 297	°C
Melt Temperature (Optimum)	--	280	°C
Mold Temperature	80 to 100	70 to 103	°C
Injection Pressure	--	6.89 to 99.2	MPa
Holding Pressure	--	59.3 to 75.0	MPa
Back Pressure	--	0.147 to 1.77	MPa
Screw Speed	50 to 200	38 to 83	rpm
Cushion	--	4.66 to 9.53	mm
Vent Depth	--	0.019 to 0.057	mm

Injection Notes

Generic
Nylon 66 - Glass Fiber

This data represents typical values that have been calculated from all products classified as: Generic Nylon 66 - Glass Fiber

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Notes

[1] These links provide you with access to supplier literature. We work hard to keep them up to date; however you may find the most current literature from the supplier.

[2] A UL Yellow Card contains UL-verified flammability and electrical characteristics. UL Prospector continually works to link Yellow Cards to individual plastic materials in Prospector, however this list may not include all of the appropriate links. It is important that you verify the association between these Yellow Cards and the plastic material found in Prospector. For a complete listing of Yellow Cards, visit the UL Yellow Card Search.

[3] Typical properties: these are not to be construed as specifications.

[4] 5.0 mm/min

[5] 1.3 mm/min

[6] 2.0 mm/min

[7] Rate A (50°C/h), Loading 2 (50 N)

[8] All color

Where to Buy

Supplier	
LUMID® EG2309B	**LG Chem Ltd.** Englewood Cliffs, Englewood Cliffs USA Telephone: 201-816-2302 Web: https://www.lgchemon.com/
Generic Nylon 66 - Glass Fiber	**Generic**

Distributor	
LUMID® EG2309B	**Biesterfeld Plastic GmbH** *Biesterfeld is a Pan European distribution company. Contact Biesterfeld for availability of individual products by country.* Telephone: +49-40-32-00-80 Web: https://www.biesterfeld.com/ Availability: Europe **Chase Plastic Services, Inc.** *Chase Plastics Services is a North American distributor with representatives throughout the region. Please find your rep here: http://www.chaseplastics.com/contact/locations* Telephone: 800-232-4273 Web: http://www.chaseplastics.com/ Availability: North America **Conventus Polymers** Telephone: 973-343-7669 Web: http://www.conventuspolymers.com/ Availability: North America **Corporación Telch** Telephone: +52-55-1474-9749 Web: https://www.telch.com.mx/ Availability: Mexico **Entec Polymers** *Contact Entec Polymers for availability of individual products by country.* Telephone: 833-319-0299 Web: https://www.entecpolymers.com/?utm_source=ul&utm_medium=paid%20association&utm_campaign=entec%20%7C%20entec%201&utm_term=ul%20%7C%20where%20to%20buy Availability: Latin America **Entec Polymers Latin America** *Contact Entec Polymers for availability of individual products by country.* Web: https://www.entecpolymers.com/ Availability: Latin America **INTERPOLIMERI S.P.A.** Telephone: +39-0497-663811 Web: https://interpolimeri.com/ Availability: Austria, Bulgaria, France, Germany, Hungary, Italy, Portugal, Romania, Slovenia, Spain, Switzerland **Resin Resource, Inc.** Telephone: 877-652-3431 Web: http://www.resinresourceinc.com/ Availability: North America
Generic Nylon 66 - Glass Fiber	Please contact the supplier to find a distributor for Generic Nylon 66 - Glass Fiber