Product Comparison

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Technical Data

Product Description	
RTP 207	Glass Fiber
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	RTP 207	Generic Nylon 66 - Glass Fiber
Manufacturer / Supplier	• RTP Company	• Generic
Generic Symbol	• Nylon 66	• Nylon 66
Material Status	• Commercial: Active	• Commercial: Active
Search for UL Yellow Card	• RTP Company	--
Availability	• Africa & Middle East • Asia Pacific • Europe • Latin America • North America	• Africa & Middle East • Asia Pacific • Europe • Latin America • North America
Filler / Reinforcement	• Glass Fiber, 40% Filler by Weight	• Glass Fiber
Processing Method	• Injection Molding	--

Physical	RTP 207	Generic Nylon 66 - Glass Fiber	Unit	Test Method
Density / Specific Gravity				
--	1.47	1.18 to 1.58	g/cm³	ASTM D792
--	--	1.19 to 1.58	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	
Molding Shrinkage				
Flow	--	0.10 to 6.4	%	ASTM D955
Flow : 3.18 mm	0.10 to 0.40	--	%	ASTM D955
Across Flow	--	0.35 to 2.0	%	ASTM D955
--	--	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	--	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

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Mechanical	RTP 207	Generic Nylon 66 - Glass Fiber	Unit	Test Method
Tensile Modulus				
--	12100	4270 to 14200	MPa	ASTM D638
--	--	4720 to 11700	MPa	ISO 527-1
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	--	69.5 to 246	MPa	ISO 527-2
Ultimate	--	116 to 200	MPa	ASTM D638
--	210	82.1 to 231	MPa	ASTM D638
--	--	52.0 to 274	MPa	ISO 527-2
Tensile Elongation				
Yield	2.5 to 3.5	1.9 to 3.6	%	ASTM D638
Yield	--	1.8 to 3.6	%	ISO 527-2
Break	--	1.0 to 700	%	ASTM D638
Break	--	2.0 to 3.6	%	ISO 527-2
Flexural Modulus				
--	11400	3610 to 11800	MPa	ASTM D790
--	--	4030 to 11500	MPa	ISO 178
Flexural Strength				
--	321	112 to 307	MPa	ASTM D790
--	--	122 to 383	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	RTP 207	Generic Nylon 66 - Glass Fiber	Unit	Test Method
Charpy Notched Impact Strength	--	5.7 to 15	kJ/m²	ISO 179
Charpy Unnotched Impact Strength	--	29 to 100	kJ/m²	ISO 179
Notched Izod Impact				
--	--	36 to 170	J/m	ASTM D256
3.18 mm	130	--	J/m	ASTM D256
--	--	2.2 to 16	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
3.18 mm	1200	--	J/m	ASTM D4812
--	--	30 to 91	kJ/m²	ISO 180

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Impact	RTP 207	Generic Nylon 66 - Glass Fiber	Unit	Test Method
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
Tensile Impact Strength	--	11.3 to 33.3	kJ/m²	ASTM D1822
Hardness	**RTP 207**	**Generic Nylon 66 - Glass Fiber**	**Unit**	**Test Method**
Rockwell Hardness				
--	--	114 to 125		ASTM D785
--	--	95 to 122		ISO 2039-2
Shore Hardness	--	78 to 81		ISO 868
Ball Indentation Hardness	--	178 to 330	MPa	ISO 2039-1
Thermal	**RTP 207**	**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	--	247 to 264	°C	ISO 75-2/B
1.8 MPa, Unannealed	249	219 to 259	°C	ASTM D648
1.8 MPa, Unannealed	--	227 to 259	°C	ISO 75-2/A
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
--	--	225 to 255	°C	ISO 306
Melting Temperature				
--	--	253 to 266	°C	
--	--	260 to 265	°C	DSC
--	--	260 to 264	°C	ISO 11357-3
--	--	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	--	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	--	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
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	--	65.0 to 142	°C	UL 746B
RTI Imp	--	65.0 to 131	°C	UL 746B

Thermal	RTP 207	Generic Nylon 66 - Glass Fiber	Unit	Test Method
RTI Str	--	65.0 to 142	°C	UL 746B
Electrical	**RTP 207**	**Generic Nylon 66 - Glass Fiber**	**Unit**	**Test Method**
Surface Resistivity				
--	--	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
--	--	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
--	--	18 to 48	kV/mm	IEC 60243-1
Dielectric Constant				
--	--	2.91 to 4.09		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	**RTP 207**	**Generic Nylon 66 - Glass Fiber**	**Unit**	**Test Method**
Burning Rate	--	0.0 to 100	mm/min	ISO 3795
Flame Rating				UL 94
1.5 mm, Values per RTP Company testing.	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	**RTP 207**	**Generic Nylon 66 - Glass Fiber**	**Unit**	
Melt Density	--	1.12 to 1.28	g/cm³	
Ejection Temperature	--	210	°C	
Additional Information	**RTP 207**	**Generic Nylon 66 - Glass Fiber**	**Unit**	
Primary Additive	40	--	%	
Injection	**RTP 207**	**Generic Nylon 66 - Glass Fiber**	**Unit**	
Drying Temperature	79	78 to 82	°C	

Injection	RTP 207	Generic Nylon 66 - Glass Fiber	Unit
Drying Time	4.0	2.8 to 5.3	hr
Drying Time, Maximum	--	8.0	hr
Dew Point	-18	-18	°C
Suggested Max Moisture	0.20	2.0E-3 to 0.63	%
Suggested Shot Size	--	50	%
Suggested Max Regrind	--	25	%
Hopper Temperature	--	70 to 75	°C
Rear Temperature	--	264 to 289	°C
Middle Temperature	--	268 to 295	°C
Front Temperature	--	269 to 300	°C
Nozzle Temperature	--	269 to 303	°C
Processing (Melt) Temp	277 to 299	267 to 297	°C
Melt Temperature (Optimum)	--	280	°C
Mold Temperature	66 to 107	70 to 103	°C
Injection Pressure	68.9 to 124	6.89 to 99.2	MPa
Holding Pressure	--	59.3 to 75.0	MPa
Back Pressure	--	0.147 to 1.77	MPa
Screw Speed	--	38 to 83	rpm
Cushion	--	4.66 to 9.53	mm
Vent Depth	--	0.019 to 0.057	mm

Injection Notes	
RTP 207	Desiccant Type Dryer Required.
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Notes

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

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