

	Product Description	Units	Test Method ASTM	Quadrant Nylon 101	Nylatron® GS	Nylatron® GF30	Nylatron® MC907	Nylatron® MC901	Nylatron® GSM	
				Unfilled PA66	MoS ₂ Filled PA66	30% Glass Filled PA66	Unfilled PA6	Blue, Heat Stabilized PA6	MoS ₂ Filled PA6	
				Extruded	Extruded	Extruded	Cast	Cast	Cast	
MECHANICAL	1	Specific Gravity, 73°F.	-	D792	1.15	1.16	1.29	1.15	1.15	1.16
	2	Tensile Strength, 73°F.	psi	D638	12,000	12,500	13,500	12,000	12,000	11,000
	3	Tensile Modulus of Elasticity, 73°F.	psi	D638	425,000	480,000	675,000	400,000	400,000	400,000
	4	Tensile Elongation (at break), 73°F.	%	D638	50	25	5	20	20	30
	5	Flexural Strength, 73°F.	psi	D790	15,000	17,000	21,000	16,000	16,000	16,000
	6	Flexural Modulus of Elasticity, 73°F.	psi	D790	450,000	460,000	650,000	500,000	500,000	500,000
	7	Shear Strength, 73°F.	psi	D732	10,000	10,500	10,000	11,000	11,000	10,500
	8	Compressive Strength, 10% Deformation, 73°F.	psi	D695	12,500	16,000	18,000	15,000	15,000	14,000
	9	Compressive Modulus of Elasticity, 73°F.	psi	D695	420,000	420,000	600,000	400,000	400,000	400,000
	10	Hardness, Rockwell, Scale as noted, 73°F.	-	D785	M85 (R115)	M85 (R115)	M75	M85 (R115)	M85 (R115)	M80 (R110)
	11	Hardness, Durometer, Shore "D" Scale, 73°F.	-	D2240	D80	D85	-	D85	D85	D85
	12	Izod Impact (notched), 73°F.ft. lb./in. of notch	ft. lb./in. of notch	D256 Type "A"	0.6	0.5	-	0.4	0.4	0.5
	13	Coefficient of Friction (Dry vs. Steel) Dynamic	-	QTM 55007	0.25	0.2	-	0.2	0.2	0.2
	14	Limiting PV (with 4:1 safety factor applied)	ft. lbs./in. ² min	QTM 55007	2,700	3,000	-	3,000	3,000	3,000
	15	Wear Factor "k" x 10 ⁻¹⁰	in. ³ -min/ft. lbs. hr.	QTM 55010	80	90	-	100	100	90
THERMAL	16	Coefficient of Linear Thermal Expansion (-40°F to 300°F)	in./in./°F	E-831 (TMA)	5.5 x 10 ⁻⁵	4 x 10 ⁻⁵	2.0 x 10 ⁻⁵	5.0 x 10 ⁻⁵	5.0 x 10 ⁻⁵	5.0 x 10 ⁻⁵
	17	Heat Deflection Temperature 264 psi	°F	D648	200	200	400	200	200	200
	18	Tg-Glass transition (amorphous)	°F	D3418	N/A	N/A	N/A	N/A	N/A	N/A
	19	Melting Point (crystalline) peak	°F	D3418	500	500	500	420	420	420
	20	Continuous Service Temperature in Air (Max.) (1)	°F	-	210	220	220	200	260	200
	21	Thermal Conductivity	BTU in./hr. ft. ² °F	E1530-11	1.7	1.7	1.7	-	2.37	-
ELECTRICAL	22	Dielectric Strength, Short Term	Volts/mil	D149	400	350	350	500	500	400
	23	Surface Resistivity	ohm/square	ANSI/ESD STM 11.11	>10 ¹³	>10 ¹³	>10 ¹³	>10 ¹³	>10 ¹³	>10 ¹³
	24	Dielectric Constant, 10 ⁶ Hz	-	D150	3.6	-	-	3.7	3.7	3.7
	25	Dissipation Factor, 10 ⁶ Hz	-	D150	0.02	-	-	-	-	-
	26	Flammability @ 3.1 mm (1/8 in.) (5)		UL 94	V-2	V-2	V-2	HB	HB	HB
CHEMICAL (3)	27	Water Absorption Immersion, 24 Hours	% by wt.	D570 (2)	0.3	0.3	0.3	0.6	0.6	0.6
	28	Water Absorption Immersion, Saturation	% by wt.	D570 (2)	7	7	5.5	7	7	7
	29	Acids, Weak, acetic, dilute hydrochloric or sulfuric acid	@73°F		L	L	L	L	L	L
	30	Acids, Strong, conc. hydrochloric or sulfuric acid	@73°F		U	U	U	U	U	U
	31	Alkalies, Weak, dilute ammonia or sodium hydroxide	@73°F		L	L	L	L	L	L
	32	Alkalies, Strong, strong ammonia or sodium hydroxide	@73°F		U	U	U	U	U	U
	33	Hydrocarbons-Aromatic, benzene, toluene	@73°F		A	A	A	A	A	A
	34	Hydrocarbons-Aliphatic, gasoline, hexane, grease	@73°F		A	A	A	A	A	A
	35	Ketones, Esters, acetone, methyl ethyl ketone	@73°F		A	A	A	A	A	A
	36	Ethers, diethyl ether, tetrahydrofuran	@73°F		A	A	A	A	A	A
	37	Chlorinated Solvents, methylene chloride, chloroform	@73°F		L	L	L	L	L	L
	38	Alcohols, methanol, ethanol, anti-freeze	@73°F		L	L	L	L	L	L
	39	Continuous Sunlight	@73°F		L	L	L	L	L	L
OTHER	40	FDA Compliance			Y	N	N	Y	N	N
	41	Relative Cost (4)			\$	\$	\$	\$	\$	\$
	42	Relative Machinability (1-10, 1=Easier to Machine)			1	1	4	1	1	1

Key:

- A = Acceptable Service
- L = Limited Service
- U = Unacceptable
- QTM = Quadrant Test Method

- (1) Data represent Quadrant's estimated maximum long term service temperature based on practical field experience.
- (2) Specimens 1/8" thick x 2" dia. or square.
- (3) Chemical resistance data are for little or no applied stress. Increased stress, especially localized may result in more severe attack. Examples of common chemicals also included.
- (4) Relative cost of material profiled in this brochure (\$ = Least Expensive and \$\$\$\$\$\$ = Most Expensive)
- (5) **Estimated rating based on available data.** The UL 94 Test is a laboratory test and does not relate to actual fire hazard. Contact Quadrant for specific UL "Yellow Card" recognition number.

NOTE: Property data shown are typical average values. A dash (-) indicates insufficient data available for publishing.

	Nylatron® LIG / LFG	Nylatron® GSM Blue	Nylatron® NSM	Nylatron® 703XL	Nylatron® 4.6	Acetron® GP POM-C	Acetron® POM-H	Acetron® AF Blend POM-H	Semitron® ESd 225	Ertalylte® PET-P	Ertalylte® TX	Symalit® PVDF	Symalit® ECTFE
	Oil Filled PA6 LFG is FDA Compliant	MoS ₂ and Oil Filled PA6	Premium, Solid Lubricant Filled PA6	Premium, Solid Lubricant Filled PA6	Heat Resistant PA46	Premium Porosity-free POM-C	Unfilled POM-H	PTFE Filled POM-H	Static Dissipative POM	Semi- crystalline PET	Premium, Solid Lubricant Filled PET-P	Unfilled PVDF	Unfilled ECTFE
	Cast	Cast	Cast	Cast	Extruded	Extruded	Extruded	Extruded	Extruded	Extruded	Extruded	Extruded	Extruded
1	1.14	1.15	1.15	1.11	1.19	1.41	1.41	1.5	1.33	1.41	1.44	1.78	1.68
2	9,900	10,000	11,000	9,000	15,000	9,500	11,000	8,000	5,400	12,400	10,500	7,000	4,500
3	465,000	500,000	410,000	400,000	470,000	400,000	450,000	435,000	200,000	460,000	500,000	300,000	240,000
4	50	30	20	15	25	30	30	15	15	20	5	100	200
5	15,000	15,000	16,000	13,000	17,000	12,000	13,000	12,000	7,300	18,000	14,000	8,000	7,000
6	525,000	500,000	475,000	360,000	450,000	400,000	450,000	445,000	220,000	490,000	360,000	290,000	240,000
7	9,300	-	10,000	-	-	8,000	9,000	7,600	6,000	8,000	8,500	-	-
8	13,500	13,000	14,000	10,000	16,000	13,500	15,000	14,000	8,000	15,000	15,250	10,000	5,000
9	330,000	425,000	400,000	360,000	325,000	260,000	300,000	300,000	175,000	420,000	400,000	160,000	160,000
10	M85 (R120)	M80 (R117)	M80 (R110)	M65	M97	M88 (R120)	M89 (R122)	M85 (R115)	M50 (R108)	M101 (R126)	M96 (R126)	M75	M75
11	-	-	D85	-	-	D85	D86	D83	D76	D84	D84	D78	D75
12	1.0	0.9	0.5	0.7	0.6	1	1	0.7	1.5	0.5	0.4	3.0	3.0
13	0.14	0.18	0.18	0.14	-	0.25	0.25	0.19	0.29	0.2	0.19	-	-
14	6,000	5,500	15,000	17,000	2,700	2,700	2,700	8,300	2,000	2,800	6,000	-	-
15	72	65	12	26	100	200	200	60	30	60	35	-	-
16	5.6 x 10 ⁻⁵	5.5 x 10 ⁻⁵	5.5 x 10 ⁻⁵	4.9 x 10 ⁻⁵	5.0 x 10 ⁻⁵	5.4 x 10 ⁻⁵	4.7 x 10 ⁻⁵	5 x 10 ⁻⁵	9.3 x 10 ⁻⁵	3.3 x 10 ⁻⁵	4.5 x 10 ⁻⁵	6.6 x 10 ⁻⁵	6.0 x 10 ⁻⁵
17	200	200	200	200	320	220	250	244	225	240	180	230	170
18	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19	420	420	420	420	554	335	347	347	320	491	491	340	464
20	220	200	200	200	300	180	180	180	180	210	210	300	300
21	-	-	-	-	2.1	1.6	2.5	-	-	2	1.9	1.5	1.5
22	-	-	400	-	-	420	450	400	-	385	533	260	500
23	>10 ¹³	>10 ¹³	>10 ¹³	>10 ¹²	>10 ¹³	>10 ¹³	>10 ¹³	>10 ¹³	10 ⁹ - 10 ¹⁰	>10 ¹³	>10 ¹³	>10 ¹³	>10 ¹³
24	-	-	-	-	-	3.8	3.7	3.1	4.31	3.4	3.6	6.4	6.4
25	-	-	-	-	-	0.005	0.005	0.01	.036	0.02	.02	0.165	0.165
26	HB	HB	HB	HB	-	HB	HB	HB	HB	HB	HB	V-0	V-0
27	0.3	0.3	0.3	0.47	0.6	0.2	0.2	0.2	2	0.07	0.06	.03	<0.01
28	6	6	7	7	7	0.9	0.9	1	8	0.9	0.47	.05	.05
29	L	L	L	L	L	L	L	L	L	A	A	A	A
30	U	U	U	U	U	U	U	U	U	L	L	A	A
31	L	L	L	L	L	A	A	A	A	L	L	L	L
32	U	U	U	U	U	U	U	U	U	U	U	U	U
33	A	A	A	A	A	A	A	A	A	A	A	A	A
34	A	A	A	A	A	A	A	A	A	A	A	A	A
35	A	A	A	A	A	A	A	A	A	A	A	U	U
36	A	A	A	A	A	A	A	A	A	A	A	L	L
37	L	L	L	L	L	L	L	L	L	U	U	L	L
38	L	L	L	L	L	A	A	A	A	A	A	A	A
39	L	L	L	L	L	L	L	L	L	L	L	L	L
40	N / Y	N	N	N	N	Y	Y	N	N	Y	Y	Y	Y
41	\$	\$	\$\$	\$\$	\$	\$	\$	\$\$	\$\$	\$\$	\$	\$	\$
42	1	1	1	1	1	1	1	1	1	2	2	3	3