

Nylatech® Cast Nylon

GENERAL PHYSICAL PROPERTIES

Property	Test Method	Units	Natural, Blue, MD	OIL	MD-OIL	SL	Nythane™	Nythane™ Oil	Nythane™ SL
Tensile Strength	ASTM D638	psi	10,500-12,500	10,000-11,800	10,000-12,000	10,000-12,000	8,900-11,000	8,500-10,000	8,900-10,000
Elongation	ASTM D638	psi	20-40	35-45	30-45	20-45	40-70	45-80	45-70
Tensile Modulus	ASTM D638	%	465,000	435,000	450,000	460,000	400,000	390,000	400,000
Compressive Strength (10% Def.)	ASTM D695	psi	15,000	14,000-15,000	14,500	14,000-15,000	12,000-13,000	12,000	12,000
Flexural Strength	ASTM D790	psi	17,000	14,000	15,000	15,500	16,300	16,000	16,000
Flexural Modulus	ASTM D790	psi	480,000	400,000	420,000	430,000	350,000	320,000	320,000
Notched IZOD Impact	ASTM D256	ft/lb/in.	0.74-1.2	1.2-1.8	0.86-1.36	0.86-1.30	1.83-2.74	2-2.74	2-2.74
Hardness:									
Rockwell		R	116-120	116-120	116-120	116-120	113-120	113-116	113-116
Shore "D"		D	80-84	80-82	80-84	80-84	76-84	76-82	76-82
Coefficient of Friction:									
Dynamic (Dry vs. Steel)			0.36-0.42	0.13-0.15	0.13-0.2	0.08-0.14	0.30-0.40	0.13-0.15	0.08-0.13
Burn Rate	UL 94		V-2	V-2	V-2	V-2	V-2	V-2	V-2
Flammability	ASTM D639		self-ext.	self-ext.	self-ext.	self-ext.	self-ext.	self-ext.	self-ext.
Melting Point	ASTM D789	°F	428-437	428-437	428-437	428	428	428	428
Max. Service Temp.:									
Continuous		°F	240-275	220-250	220-250	220-250	220-250	220-250	220-250
Intermittent		°F	300-335	300-320	300-320	300	280-300	280-300	280-300
Coefficient of Thermal Expansion	ASTM D696	in./in./°F	5.5 x 10 ⁻⁵	5.5 x 10 ⁻⁵	5.5 x 10 ⁻⁵	5.5 x 10 ⁻⁵	5.5 x 10 ⁻⁵	5.5 x 10 ⁻⁵	5.5 x 10 ⁻⁵
Dielectric Strength	ASTM D149	V/mil	500-600	500-600	500-600	500-600	500-600	500-600	500-600
Volume Resistivity	ASTM D257	ohm x cm	10 ¹⁵	10 ¹⁵	10 ¹⁵	10 ¹⁵	10 ¹⁵	10 ¹⁵	10 ¹⁵
Dielectric Constant:									
60 htz	ASTM D150		3.70	3.70	3.70	3.70	3.70	3.70	3.70
10 ⁻⁵ htz			3.70	3.70	3.70	3.70	3.70	3.70	3.70
Specific Gravity	ASTM D792	g/cm ³	1.15	1.14	1.14	1.13	1.14	1.14	1.13
Water Absorption:									
24 hrs	ASTM D570	%	0.50	0.2-0.5	0.2-0.5	0.30	0.3-0.5	0.20	0.2-0.35
Equilibrium		%	2-5.5	1-2.5	1-2.5	1.2-3	0.8-2	0.5-2	0.5-2

All Nylatech material is certified to conform with ASTM-D5989 specification. Nylatech® NATURAL and Nylatech® NATURAL-OIL meet requirements for 21 CFR 177.1500 of the U.S. FDA.

The above values are intended for guidance to material selection only. As with any new application, Nylatech recommends testing in actual application prior to specification.



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