



Cast Nylon Type 6

Nylon Type 6, Cast, Natural (Cast Nylons Ltd)

PROPERTY	UNITS	ASTM TEST METHOD	NYCAST® 6PA Natural NYCAST® 6PA MoS ₂	NYCAST® XHA	NYLOIL® FG NYLOIL® MDX
Specific Gravity		D792	1.15 - 1.17	1.15 - 1.17	1.14 - 1.15
Tensile Strength	psi	D638	10,000 - 13,500	12,000 - 13,500	9,500 - 11,000
Tensile Elongation	%	D638	20 - 55	20 - 30	35 - 55
Tensile Modulus	psi	D638	400,000 - 550,000	485,000 - 550,000	375,000 - 475,000
Compressive Strength	psi	D695	13,500 - 16,000	15,500 - 18,000	12,000 - 14,000
Compressive Modulus	psi	D695	325,000 - 400,000	300,000 - 350,000	275,000 - 375,000
Flexural Strength	psi	D790	15,500 - 17,500	15,000 - 17,500	14,000 - 16,000
Flexural Modulus	psi	D790	420,000 - 500,000	420,000 - 500,000	375,000 - 475,000
Shear Strength	psi	D732	10,000 - 11,000	10,000 - 11,000	8,000 - 9,000
Notched Izod Impact	ft.lbs./in.	D256	0.7 - 0.9	0.7 - 0.9	1.4 - 1.8
Hardness, Rockwell	R	D785	115 - 125	115 - 125	100 - 115
Hardness, Shore	D	D2240	78 - 83	78 - 83	74 - 80
Melting Point	° F	D789	450± 10	450± 10	450± 10
Coefficient Of Linear Thermal Expansion	in./in./°F	D696 E831	5.0 x 10 ⁻⁵ (Nat only) 6.1 x 10 ⁻⁵	5.0 x 10 ⁻⁵	5.0 x 10 ⁻⁵
Deformation Under Load	%	D621	0.5 - 2.5	0.5 - 2.5	0.7 - 0.8
Deflection Temperature:					
264 psi	° F	D648	200 - 400	200 - 400	200 - 400
66 psi	° F	D648	400 - 430	400 - 430	400 - 430
Continuous Service Temperature	° F		230	250	230
Intermittent Service Temperature	° F		330	330	330
Coefficient of Friction:					
Dynamic		D1894	0.22	0.22	0.12
Water Absorption					
24 Hours	%	D570	0.5 - 0.6	0.5 - 0.6	0.5 - 0.6
Saturation	%	D570	5.0 - 6.0	5.0 - 6.0	4.0 - 5.0
Dielectric Strength	v/mil.	D149	500 - 600	500 - 600	500 - 600
Dielectric Constant					
60 cycles		D150	3.7	3.7	3.7
1000 cycles		D150	3.7	3.7	3.7
100,000 cycles		D150	3.7	3.7	3.7
Compliance		FDA	Nycast 6PA Natural Nycast 6PA FG Blue	—	Nyloil FG
		USDA 3A	Nycast 6PA Natural Nycast 6PA FG Blue	—	Nyloil FG
		UL 94 HB	Nycast 6PA Natural	—	—

Revised: May 12, 2005 (revised values)