Product Comparison

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Technical Data

Product Description	
Minlon® 73M30 NC010 (Dry)	30% Mineral Reinforced Polyamide 6
Generic Nylon 6 - Mineral	This data represents typical values that have been calculated from all products classified as: Generic Nylon 6 - Mineral This information is provided for comparative purposes only.

General	Minlon® 73M30 NC010 (Dry)	Generic Nylon 6 - Mineral
Manufacturer / Supplier	• Celanese Corporation	• Generic
Generic Symbol	• Nylon 6	• Nylon 6
Material Status	• Commercial: Active	• Commercial: Active
Literature [1]	• Technical Datasheet	--
UL Yellow Card [2]	• E41938-234419	--
Search for UL Yellow Card	• Celanese Corporation • Minlon®	--
Availability	• Africa & Middle East • Asia Pacific • Europe • Latin America • North America	• Africa & Middle East • Asia Pacific • Europe • Latin America • North America
Filler / Reinforcement	• Mineral, 30% Filler by Weight	• Mineral
Additive	• Heat Stabilizer • Mold Release	--
Features	• Heat Stabilized • Low Warpage • Platable	--
Forms	• Pellets	--
Processing Method	• Injection Molding	--
Multi-Point Data	• Isothermal Stress vs. Strain (ISO 11403) • Secant Modulus vs. Strain (ISO 11403) • Tensile Modulus vs. Temperature (ISO 11403)	--
ISO Designation	• ISO 16396-PA6.MD30.M1GHNR.S14-050	--

General	Minlon® 73M30 NC010 (Dry)	Generic Nylon 6 - Mineral
Part Marking Code (ISO 11469)	• >PA6-MD30<	--
Resin ID (ISO 1043)	• PA6-MD30	--

Physical	Minlon® 73M30 NC010 (Dry)	(Conditioned)	Generic Nylon 6 - Mineral	Unit	Test Method
Density / Specific Gravity					
--	--	--	1.28 to 1.49	g/cm³	ASTM D792
--	1.35	--	1.34 to 1.51	g/cm³	ISO 1183
Apparent (Bulk) Density	--	--	0.70 to 0.80	g/cm³	ISO 60
Melt Volume-Flow Rate (MVR) (275°C/5.0 kg)	--	--	24 to 90	cm³/10min	ISO 1133
Molding Shrinkage					
Flow	--	--	0.28 to 1.2	%	ASTM D955
Across Flow	--	--	0.39 to 0.91	%	ASTM D955
--	--	--	0.073 to 1.2	%	ISO 294-4
Across Flow	0.90	--	--	%	ISO 294-4
Flow	0.90	--	--	%	ISO 294-4
Water Absorption					
24 hr	--	--	0.58 to 1.3	%	ASTM D570
24 hr, 23°C	--	--	0.23 to 1.3	%	ISO 62
Saturation	--	--	1.5 to 6.3	%	ASTM D570
Saturation, 23°C	--	--	5.7 to 7.4	%	ISO 62
Saturation, 23°C, 2.00 mm	6.3	--	--	%	ISO 62
Equilibrium, 23°C, 50% RH	--	--	0.93 to 2.4	%	ISO 62
Equilibrium, 23°C, 2.00 mm, 50% RH	2.1	--	--	%	ISO 62
Viscosity Number					
--	145	--	--	cm³/g	ISO 307, 1628
--	--	--	145 to 146	cm³/g	ISO 307

Mechanical	Minlon® 73M30 NC010 (Dry)	(Conditioned)	Generic Nylon 6 - Mineral	Unit	Test Method
Tensile Modulus					
--	--	--	3900 to 7820	MPa	ASTM D638
--	4800	1700	414 to 13300	MPa	ISO 527-1
Tensile Strength					
Yield	--	--	65.6 to 131	MPa	ASTM D638
Yield	--	--	65.9 to 87.6	MPa	ISO 527-2
Break	--	--	54.0 to 131	MPa	ASTM D638
Break	--	--	62.4 to 113	MPa	ISO 527-2
Break	82.0	55.0	--	MPa	ISO 527-2/5
--	--	--	57.7 to 139	MPa	ASTM D638
--	--	--	68.4 to 92.7	MPa	ISO 527-2
Tensile Elongation					
Yield	--	--	2.4 to 3.6	%	ASTM D638
Yield	--	--	2.4 to 4.1	%	ISO 527-2
Break	--	--	1.4 to 12	%	ASTM D638
Break	--	--	0.70 to 11	%	ISO 527-2
Break	15	40	--	%	ISO 527-2/5
Tensile Creep Modulus					ISO 899-1
1 hr	--	1180	--	MPa	
1000 hr	--	740	--	MPa	
Flexural Modulus					
--	--	--	3360 to 7780	MPa	ASTM D790
--	4800	1800	3540 to 8450	MPa	ISO 178
Flexural Strength					
--	--	--	87.5 to 209	MPa	ASTM D790
--	--	--	93.8 to 175	MPa	ISO 178
Poisson's Ratio	0.36	0.42	--		

Impact	Minlon® 73M30 NC010 (Dry)	(Conditioned)	Generic Nylon 6 - Mineral	Unit	Test Method
Charpy Notched Impact Strength					
--	--	--	1.5 to 10	kJ/m²	ISO 179
-30°C	3.5	3.5	--	kJ/m²	ISO 179/1eA
23°C	5.5	11	--	kJ/m²	ISO 179/1eA
Charpy Unnotched Impact Strength					
--	--	--	28 to 80	kJ/m²	ISO 179
-30°C	85	85	--	kJ/m²	ISO 179/1eU
23°C	110 kJ/m²	No Break	--		ISO 179/1eU
Notched Izod Impact					
--	--	--	27 to 66	J/m	ASTM D256
--	--	--	1.0 to 12	kJ/m²	ISO 180
-30°C	4.0	--	--	kJ/m²	ISO 180/1A
23°C	5.5	9.0	--	kJ/m²	ISO 180/1A
Notched Izod Impact (Area)	--	--	3.00 to 7.70	kJ/m²	ASTM D256
Unnotched Izod Impact					
--	--	--	52 to 440	J/m	ASTM D4812
--	--	--	4.0 to 130	kJ/m²	ISO 180
Multi-Axial Instrumented Impact Energy	--	--	1.50 to 20.0	J	ISO 6603-2
Multi-Axial Instrumented Impact Peak Force	--	--	728 to 4690	N	ISO 6603-2

Hardness	Minlon® 73M30 NC010 (Dry)	(Conditioned)	Generic Nylon 6 - Mineral	Unit	Test Method
Rockwell Hardness					
--	--	--	89 to 123		ASTM D785
--	--	--	112 to 119		ISO 2039-2
Ball Indentation Hardness	--	--	176 to 215	MPa	ISO 2039-1

Thermal	Minlon® 73M30 NC010 (Dry)	(Conditioned)	Generic Nylon 6 - Mineral	Unit	Test Method
Deflection Temperature Under Load					
0.45 MPa, Unannealed	--	--	182 to 228	°C	ASTM D648
0.45 MPa, Unannealed	195	--	180 to 219	°C	ISO 75-2/B
1.8 MPa, Unannealed	--	--	101 to 207	°C	ASTM D648
1.8 MPa, Unannealed	80.0	--	66.6 to 202	°C	ISO 75-2/A
8.0 MPa, Unannealed	--	--	50.0 to 50.1	°C	ISO 75-2/C
Continuous Use Temperature	--	--	67.9 to 180	°C	ASTM D794
Glass Transition Temperature [4]	70.0	--	--	°C	ISO 11357-3
Vicat Softening Temperature					
--	210	--	--	°C	ISO 306/B50
--	--	--	199 to 211	°C	ISO 306
Melting Temperature					
--	--	--	213 to 223	°C	
--	--	--	220 to 222	°C	DSC ISO 11357-3
-- [4]	221	--	--	°C	ISO 11357-3
--	--	--	220	°C	ASTM D3418 ISO 3146
CLTE					
Flow	--	--	2.9E-5 to 6.2E-5	cm/cm/°C	ASTM D696
Flow	6.3E-5	--	3.8E-5 to 6.8E-5	cm/cm/°C	ISO 11359-2
Flow : -40 to 23°C	5.6E-5	--	--	cm/cm/°C	ISO 11359-2
Flow : 55 to 160°C	8.9E-5	--	--	cm/cm/°C	ISO 11359-2
Transverse	6.5E-5	--	4.9E-5 to 9.2E-5	cm/cm/°C	ISO 11359-2
Transverse : -40 to 23°C	5.7E-5	--	--	cm/cm/°C	ISO 11359-2
Transverse : 55 to 160°C	1.1E-4	--	--	cm/cm/°C	ISO 11359-2
Thermal Conductivity	--	--	0.98 to 2.6	W/m/K	ISO 8302
RTI Elec					UL 746B
--	--	--	65.0 to 140	°C	
0.75 mm	65.0	--	--	°C	

Thermal	Minlon® 73M30 NC010 (Dry)	(Conditioned)	Generic Nylon 6 - Mineral	Unit	Test Method
RTI Imp					UL 746B
--	--	--	65.0 to 66.4	°C	
0.75 mm	65.0	--	--	°C	
RTI Str					UL 746B
--	--	--	65.0 to 140	°C	
0.75 mm	65.0	--	--	°C	
TGA Curve	available	--	--		ISO 11359-2

Electrical	Minlon® 73M30 NC010 (Dry)	(Conditioned)	Generic Nylon 6 - Mineral	Unit	Test Method
Surface Resistivity					
--	--	--	1.0E+12 to 1.0E+17	ohms	ASTM D257
--	--	--	1.0E+6 to 1.0E+15	ohms	IEC 60093
Volume Resistivity					
--	--	--	1.0E+12 to 2.5E+15	ohms·cm	ASTM D257
--	--	--	1.0E+6 to 2.5E+15	ohms·cm	IEC 60093
Dielectric Strength					
--	--	--	3.5 to 27	kV/mm	ASTM D149
--	--	--	15 to 36	kV/mm	IEC 60243-1
Dielectric Constant					
--	--	--	3.20 to 4.86		ASTM D150
--	--	--	3.49 to 4.51		IEC 60250
--	--	--	3.94		IEC 60250
Dissipation Factor					
--	--	--	0.020		ASTM D150
--	--	--	0.016 to 0.020		IEC 60250
Comparative Tracking Index	--	--	440 to 600	V	IEC 60112

Flammability	Minlon® 73M30 NC010 (Dry)	(Conditioned)	Generic Nylon 6 - Mineral	Unit	Test Method
Burning Rate	--	--	99 to 100	mm/min	ISO 3795
Flame Rating (0.9 mm)	HB	--	--		UL 94 IEC 60695-11-10, -20
Glow Wire Flammability Index	--	--	650 to 960	°C	IEC 60695-2-12
Glow Wire Ignition Temperature	--	--	720 to 805	°C	IEC 60695-2-13
Oxygen Index	--	--	25 to 100	%	ISO 4589-2
FMVSS Flammability	SE	--	--		FMVSS 302

Injection	Minlon® 73M30 NC010 (Dry)	Generic Nylon 6 - Mineral	Unit
Drying Temperature	80	80 to 90	°C
Drying Time			
--	--	2.8 to 4.3	hr
Desiccant Dryer	2.0 to 4.0	--	hr
Dew Point	--	-30 to -18	°C
Suggested Max Moisture	< 0.20	0.099 to 0.20	%
Suggested Max Regrind	--	18	%
Hopper Temperature	--	70 to 80	°C
Rear Temperature	--	229 to 282	°C
Middle Temperature	--	238 to 281	°C
Front Temperature	--	239 to 283	°C
Nozzle Temperature	--	246 to 280	°C
Processing (Melt) Temp	260 to 280	248 to 290	°C
Melt Temperature, Optimum	270	--	°C
Mold Temperature	70 to 120	69 to 101	°C
Mold Temperature, Optimum	100	--	°C
Injection Pressure	--	8.00 to 97.7	MPa
Holding Pressure	50.0 to 100	60.0 to 75.0	MPa
Back Pressure	--	0.172 to 8.00	MPa
Screw Speed	--	40 to 200	rpm

Injection	Minlon® 73M30 NC010 (Dry)	Generic Nylon 6 - Mineral	Unit
Drying Recommended	yes	--	
Hold Pressure Time	3.00	--	s/mm
Maximum Screw Tangential Speed	< 12	--	m/min

Injection Notes	
Generic Nylon 6 - Mineral	This data represents typical values that have been calculated from all products classified as: Generic Nylon 6 - Mineral This information is provided for comparative purposes only.

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] 10°C/min

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