

MATERIAL DATA SHEETS

PROPERTIES	UNITS	ASTM TEST METHOD	NYLON 6/6 (MOLDED)	NYLON 6/6 30% GLASS-FILLED	POLYETHYLENE	POLYPROPYLENE
Tensile strength at yield	psi Mpa	D-638	9000 62	25,000 172	5800 40	4000 28
Elongation at yield at fail	% %	D-638	20 200	5-10 40	NR 600	18 150
Flexural Modulus at yield	10 ³ psi Mpa	D-790	190 1310	800-900 5516-6206	NR	150 1030
Isod impact strength notched	ft-lb/in joules/M	D-256	3.0 160	2 107	NR	2.0 107
Deflection temp. at 66 psi at 264 psi	°F (°C) °F (°C)	D-648	430 160 (71)	500 (260) 485-490 (251-255)	NR	194 (90) 150 (65)
Melting point	°F °C	D-789	482 250	500-509- 260-265 T _m	NR	340 171
Dielectric strength	V/mil	D-149	550	500	500-900	650
Volume resistivity	ohm-cm	D-257	2 x 10E+13	1 x 10E+15	1 x 10E+16	1 x 10E+17
Water absorption	%/24hr.	D-570	1.1	0.9	NR	0.01
UL flammability	---	UL 94	94 V-2	94 HB	NR	94 HB
Rockwell Hardness	---	R, M scales	R105	M96	NR	R85
Flexural strength	10 ³ psi Mpa	D-638	17.9 123	36-38 255	NR	7000 48
Thermal conductivity	Btu-in/hr-ft ² -°F W/m-°C	---	1.7 .25	1.4-1.5 .20-.22	2.9-3.5 .42-50	.81 .12
Specific Gravity	---	D-792	1.16	1.37-1.39	1.09	.09
Max. service temperature	°F °C	---	221 105	230-240 110-116	212 100	212 100

NR: Not Reported

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PROPERTIES	UNITS	ASTM TEST METHOD	PVC	ISOPLAST POLYURETHANE 40% LONG GLASS FILLED	ULTEM 1000	ULTEM 2300 30% GLASS FILLED
Tensile strength at yield	psi Mpa	D-638	7450 51	27,000 190	15,200 105	24,500* 160*
Elongation at yield	%	D-638	NR	2	7-8	N.A.
Elongation at fail	%		40-80	2	60	3
Flexural Modulus at yield	10 ³ psi Mpa	D-790	400 2760	1500 10,000	480 3300	1300 9000
Isod impact strength notched	ft-lb/in joules/M	D-256	>5. >270	8 430	1 50	2.0 110
Deflection temp. at 66 psi	°F (°C)	D-648	NR	NR	410 (210)	412 (212)
at 264 psi	°F (°C)		170 (77)	210 (99)	392 (200)	410 (210)
Melting point	°F °C	D-789	193-246 75-105 T _g	366 (Vicat) 186	338 (Vicat) 170	356 (Vicat) 180
Dielectric strength	V/mil	D-149	1413	500	830	770
Volume resistivity	ohm-cm	D-257	1.2 x 10E+12	NR	6.7 x 10E+17	3.0 x 10E+16
Water absorption	%/24hr.	D-570	0.05	0.14	0.25	0.16
UL flammability	---	UL 94	94 V-0	94 HB	94 V-0	94 V-0
Rockwell Hardness	---	R, M scales	R115	R119	M109	M114
Flexural strength	10 ³ psi Mpa	D-638	14.45 99.63	40 275	22 150	33 230
Thermal conductivity	Btu-in/hr-ft ² -°F W/m-°C	---	.96 .14	NR NR	1.5 .22	1.6 2.3
Specific Gravity	---	D-792	1.37	1.5	1.27	1.51
Max. service temperature	°F °C	---	140 60	197 92	338 170	342 172

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PROPERTIES	UNITS	ASTM TEST METHOD	ACETAL	POLYCARBONATE	PVDF (KYNAR®)	PTFE (TEFLON®)
Tensile strength at yield	psi Mpa	D-638	9700-10,000 68	9000 62	5000-7000 34-48	3000 21
Elongation at yield at fail	% %	D-638	NR 4	100-130 135	NR 50-250	NR 300
Flexural Modulus at yield	10 ³ psi Mpa	D-790	380-430 2620-2965	340-350 2344-2413	170-325 1172-2240	500 3447
Isod impact strength notched	ft-lb/in joules/M	D-256	1.2-2.3 64-123	17 908	20-80 1068-4270	3.0 160
Deflection temp. at 66 psi at 264 psi	°F (°C) °F (°C)	D-648	330-342 (165-172) 270-277 (132-136)	300-305 (149-152) 290-295 (143-146)	234-284 (112-140) 176-194 (80-90)	260 (127) 132 (55)
Melting point	°F °C	D-789	347-358 175-181 T _m	284-302 140-150 T _G	330 165	612 322
Dielectric strength	V/mil	D-149	500	380-399	260	600
Volume resistivity	ohm-cm	D-257	>1 x 10E+15	>1 x 10E+16	1 x 10E+12- 1 x 10E+14	>1 x 10E+18
Water absorption	%/24hr.	D-570	.21-.25	0.15	<0.05	<.01
UL flammability	---	UL 94	94 HB	94 V-2	94 V-0	94 V-0
Rockwell Hardness	---	R, M scales	M90-M94	R118	R79-83	R58
Flexural strength	10 ³ psi Mpa	D-638	13.6-14.1 95	14-14.2 97	6.5-9.0 45-62	No Break
Thermal conductivity	Btu-in/hr-ft ² -°F W/m-°C	---	1.6 .23	1.3 .19	.87 .13	1.7 .25
Specific Gravity	---	D-792	1.42	1.2	1.75	2.2
Max. service temperature	°F °C	---	195 91	212 100	300 150	500 260

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