

Mechanical Plastics

	ABS	ACETAL	DELTRIN II	DELTRIN AF	HYDEX 302	HYDEX 4101	NORYL
PHYSICAL							
SPECIFIC GRAVITY	1.05-1.07	1.41	1.42	1.54			1.05 - 1.10
WATER ABSORPTION, 24 hr. (%)	0.2 - 0.45	.21 - .22	.25	0.20		.05 - .07	0.07
MECHANICAL							
TENSILE							
Strength, Yield (10 ³ psi) @ 73°F.	6.3 - 8.0	8.8 - 9.5	10.0	6.9 - 7.6	10 - 12		6.5 - 9.6
Elongation, Ultimate (%) @ 73°F.	5 - 20	21 - 40	50	15 - 22		200 - 300	
Modulus, Yield (10 ³ psi) @ 73°F.	330 - 400	410 - 420		420	280		
FLEXURAL							
Strength, (10 ³ psi) @ 73°F.	9.9 - 11.8	13	14.1	10.3 - 10.5	14	11.6	8.3 - 13.5
Modulus, Yield (10 ³ psi) @ 73°F.	350 - 400	375	450	340 - 350	330	350 - 377	340 - 360
COMPRESSIVE STRENGTH							
2% Offset, (10 ³ psi)	10.5-11.0	4.5	5.2	4.5		11.0	
IMPACT STRENGTH							
Izod, Notched (ft.-lb./in.) @ 73°F.	2.0 - 4.0	1.3	1.5	.7 - 1.0	2	.9 - 1.2	5.0 - 7.0
HARDNESS	R108-115	M80	M94 - R120	M78		R120	R113/119
COEFFICIENT OF STATIC FRICTION							
Against self						.35	
Against steel		0.15		0.08		.19	
THERMAL							
CONDUCTIVITY							
(BTU/Hr/Sq.Ft./Degree °F/in.)	0.96-2.16	1.6 - 1.92	2.6				
COEFF. OF THERMAL EXPANSION							
(10 ⁻⁵ /Degree °F)	3.2 - 4.8	4.7 - 6.0	5.8	5.8 - 6.8	3.2		3.3 - 4.1
SPECIFIC HEAT							
(BTU/lb./Degree °F)		0.035					
HEAT DEFLECTION TEMP.							
(Degree F.)							
At 66 psi	215 - 225	315		334	290	302 - 328	200 - 279
At 264 psi	185 - 223	230		244	240		185 - 265
MAX. CONTINUOUS TEMP. (°F)		210	210	195			122 - 221
ELECTICAL							
VOLUME RESISTIVITY							
(Ohm/cm)	2.7 X 10 ¹⁶	1 X 10 ¹⁴	10 ¹⁵	3 X 10 ¹⁶			
DIELECTRIC STRENGTH							
(V/Mil)	385	500	500	400			400 - 630
DIELECTRIC CONSTANT							
At 60 HZ	2.8 - 3.2	3.7 - 3.9					2.65 - 2.8
At 1 MHZ	2.75 - 3.0	3.7 - 3.9		3.1			
DISSIPATION FACTOR							
At 60 HZ	0.003-	.006-.0010					.0004 - .0007
At 1 MHZ	0.006	.005-.0010	.005	0.009			0.0024
ARC RESISTANCE (SECONDS)	0.008-	240	220	183			

NYLON CAST	NYLON 6/6	NYLON 6/12	NYLON MD	PET	POLYCARBONATE	POLY-SULFONE	POLYURETHANE	REXOLITE	UHMW
1.15	1.14	1.06	1.14	1.39	1.20		1.03 - 1.5	1.05	0.94
0.55	.60 - 1.2	0.25	.05 - 1.4	0.08	0.15	0.3	0.2 - 1.5	0.02 - 0.03	<0.01
13.0	12 - 12.3	13.6	10.0 - 14.0	13.0	9.0	10.2	.175 - 10	8.0 - 10.0	3.1 - 4.0
4	4 - 6	150	5.0 - 150	4	135		100 - 1000	3	420 - 525
480	230	290	450 - 600	490	300 - 350	360	10 - 100	240	80 - 100
7.0 - 17.5	17.0		16.0 - 19.0		14.0 - 14.2	15.4	.7 - 4.5	10.0 - 15.0	
110 - 450	410 - 420	295	520		340 - 350	390	10 - 100		130 - 140
		2.4			12.5				
1.2	.55 - 1.0	1.0	0.50	0.50	17	1.3	25 to flex		No break
M88	R120	R114	D80-90	M95	R118	R120	D90	R110-120	R64
0.25	0.06	0.24	0.25	0.20	0.31				
	0.20								
	1.5 - 1.7	1.5			1.35	1.8			
4.4	4.0 - 4.4	5.0	3.5	3.3	3.75 - 3.8			5.0	7.2
	0.3 - .4	0.4			0.30				
370	410 - 455	356	400 - 490	240	275				158 - 174
180	194 - 200	194	200 - 470	175	270	345		200 - 225	118
	220	220	180 - 200	210				215	160 - 180
>10 ¹⁴	>10 ¹⁵	10 ¹⁵	2.5 X 10 ¹³	>10 ¹⁶	>10 ¹⁶	5 x 10 ¹⁶		10 ¹⁵	10 ¹⁸
1500	1500		300 - 400	1500	380 - 399	425	300 - 500	700 - 1,200	450 - 500
4.0	4.0	4.0		3.3	3.0 - 3.17	3.07 - 3.03	4.0 - 7.5	2.55	2.3
3.6	3.6	3.5		3.2	2.96		6.5 - 7.1	2.55	
0.025	.01 - .014	0.02		0.007	0.0009	.0008-.0034	0.15 - 0.017		<0.0005
0.030	.02 - .04	0.02		0.020	0.010				<0.0005
	120				120	122	0.1 - 0.6		

