

We cannot anticipate all conditions under which this information and our products, or the products of other manufacturers in combination with our products, may be used. We accept no responsibility for the results obtained by the application of this information or the safety and suitability of our products, whether alone or in combination with other products. Users are advised to make their own tests to determine the safety and suitability of each such product or product combination for their own purposes. Unless otherwise agreed in writing, we sell the products without warranty, and buyers and users assume all responsibility and liability for the loss or damage arising from the handling and use of our products, whether used alone or in combination with other products. For most recent technical information, please in USA or Canada, CDN 1-800-667-0999, US 1-866-733-2684.

Printed in Canada

THERMOPLASTICS

PROPERTY	COEFFICIENT OF FRICTION	THERMAL EXPANSION	HEAT DEFLECTION TEMPERATURE AT	MAX. OPERATING TEMPERATURE	DIELECTRIC STRENGTH	DIELECTRIC CONSTANT	24hr. WATER ABSORPTION	THERMAL CONDUCTIVITY
UNITS		in/in-°F	°F (°C) @ 264psi	°F (°C)	V/mil	at 1Khz	%	BTU-in/ft ² -hr-°F
ASTM TEST	Against Steel	E-831 or D696*	D-3418 or D-648*	UL-94	D-149	D-150	D-570	F-433, C-177*
ACRYLIC (Cast Sheet)		3.9	200-215 (93-102)*		500	3.3	0.2	
POLYCARBONATE	0.38	3.7 X 10 ⁻⁵	270 (132)	275 (135)	380	-	0.15	1.35*
PVC (Rigid)		1.2 - 5.6	158-162 (70-72)	160 (70)	350 - 500	4.0 - 8.0	0.04 - 0.4	-
PI (Polyimide) Unfilled	-	27*	680 (360)*		700	3.41	0.4	1.53*
PI (Polyimide) Glass Fiber	-	-	660 (349)*		500	4.7	0.2	3.48*
PI (Polyimide) 25% Graphite	0.24	-	550 (288)*		-	-	0.6	11.3*
PI (Polyimide) 15% Graphite	0.24	-	680 (360)*		250	13.3	0.2	6.0*
PI (Polyimide) Laminates	-	-	660 (349)*		625	4.5	0.3	2.2*
ACETAL (Copolymer)	0.15	5.4 X 10 ⁻⁵	205 (96)*	180 (82)	2,100	3.7	0.22	1.6*
ACETAL (Homopolymer)	0.15	4.7 X 10 ⁻⁵	277 (136)*	180 (82)	3,000	3.7	0.25	2.6*
PEEK (Unreinforced)	0.4		320 (160)	482 (250)	480	3.3	0.1 - 0.5	1.75
PEEK (30% Glass)			450 (232)	480 (249)	500		0.11	2.98
PEEK (30% Carbon)	0.2		518 (270)	482 (250)	32		0.06	6.4
PAI (Polyamide-imide)	0.2 - 0.35	0.8 - 2.0	520-540 (271-282)	500 (260)	700	-	0.3 - 0.4	1.8 - 3.7
PEI (Polyetherimide)	0.18 - 0.42	1.1 - 3.1	390-410 (199-210)	338 (170)	830	-	0.18 - 0.30	0.85
PTFE (Virgin)	0.04-0.06				610		0	
PP (Polypropylene) HPP		6.2*	125 (52)	180 (82)	500-660	2.25	<0.01	0.76-0.81
PP (Polypropylene) HPP Filled			130-330 (54-165)				0.01-0.09	2.4-9*
PP (Polypropylene) CPP		6.6*	110 (43)	170 (77)	475	2.2-2.36	0.01-0.03	
PP (Polypropylene) CPP Filled			116-280 (47-138)				0.01-0.02	3-9*
UHMW - Reprocessed	0.14 - 0.20	2 X 10 ⁻⁴		180 (82)				
UHMW - Virgin	0.14 - 0.20	2 X 10 ⁻⁴	115 (46)	180 (82)	40	2.3 - 2.35		
Natural Extruded	0.25	4 X 10 ⁻⁵	194 (90)	220 (104)	600	3.9	1.2	1.7
Natural Cast	0.26-0.42	5.5 X 10 ⁻⁵		200-250 (93-121)			0.6-1.2	
Natural Oil	0.12-0.19	5.5 X 10 ⁻⁵		200-250 (93-121)			0.6-1.2	
Blue	0.22-0.42	5.5 X 10 ⁻⁵		200-250 (93-121)			0.6-1.2	
MD	0.36-0.42	5.5 X 10 ⁻⁵		200-250 (93-121)			0.6-1.2	
MD-Oil	0.13-0.20	5.5 X 10 ⁻⁵		200-250 (93-121)			0.2-0.5	
Oil	0.17-0.19	5.5 X 10 ⁻⁵		200-250 (93-121)			0.6-1.2	
SL	0.08-0.14	5.5 X 10 ⁻⁵		200-250 (93-121)			0.30	
TIVAR® 88	0.12	2 X 10 ⁻⁴		180 (82)				
TIVAR® Dryslide	0.15	2 X 10 ⁻⁴		180 (82)				
SYNSTEEL	0.205							
TUFFKAST	0.30-0.40	5.5 X 10 ⁻⁵		220-250 (104-121)	500-600		0.3-0.5	
TUFFKAST 010	0.08-0.13	5.5 X 10 ⁻⁵		220-250 (104-121)	500-600		0.2-.035	
TUFFKAST 015	0.13-0.15	5.5 X 10 ⁻⁵		220-250 (104-121)	500-600		0.2	
FRP GRATING					0.035		0.45	

NYLONS

SPECIALTY

LAMINATES

PROPERTY	ARC RESISTANCE	VOLUME RESISTIVITY	SURFACE RESISTIVITY	MAX. OPERATING TEMPERATURE	DIELECTRIC STRENGTH	DIELECTRIC CONSTANT	24hr. WATER ABSORPTION	DISSIPATION FACTOR
UNITS	seconds	meg-ohm-cm	meg-ohms	°F (°C)	Vpm	106 cycles/sec	%	106 cycles/sec
ASTM TEST	D-495	D-229	D-229		D-229	D-229	D-229	D-229
PHENOLIC XXX Paper	-	3 x 10 ⁷	7 x 10 ⁵	284 (140)	600	5.2	0.4	0.037
PHENOLIC LE Fine Weave Fabric	-	7 x 10 ⁴	6 x 10 ⁴	257 (125)	350	5.1	0.7-1.9	0.065
PHENOLIC CE Med. Weave	-	-	-	257 (125)	200	-	1.1	-
PHENOLIC G-5 Glass Cloth	180	6 x 10 ⁷	6 x 10 ⁶	284 (140)	300	6.3	0.4	0.019
PHENOLIC G-9 Glass Cloth	180	1.5 x 10 ⁷	1.5 x 10 ⁷	284 (140)	-	7.2	0.2	0.018
PHENOLIC G-10 Glass Cloth	100	6 x 10 ⁶	1 x 10 ⁶	266 (130)	550	5.0	0.05	0.032

PROPERTY	BAYSHORE REBOUND	BELL BRITTLE POINT	POT LIFE	300% MODULUS	NCO	POST CURE @ 100°C		
UNITS	%	°F	Minutes	psi	%	Hours		
ASTM TEST		D-638						
Deadplate	3			970	4.85			
54A	23		4	1150	3.2	16		
6060	30		6	-	3.6	16		
70A	30	-80	5-7	1020	4.05	16		
80A	30	-80						
430	42	-80	5	2100	4.2	16		
500	40	-80	3	2600	6.25	16		
Extreme	28		6	3447	5.19	16		
600	40							
750	45	-70						
750SXL	43	-58						
SPS-2000	46	-13						

POLYURETHANE

THERMOPLASTICS

PROPERTY	SPECIFIC GRAVITY	TENSILE STRENGTH	TENSILE MODULUS	ELONGATION AT BREAK	FLEXURAL STRENGTH	FLEXURAL MODULUS	IZOD IMPACT NOTCHED	HARDNESS
UNITS	g/cm ³	psi	psi	%	psi	psi	ft-lb/in ²	scale as noted
ASTM TEST	D-792	D-638	D-638	D-638	D-790	D-790	D-256	D-785
ACRYLIC (Cast Sheet)	1.19	10,500	4.5	5	16,500	4.5	0.4	M100-102
POLYCARBONATE	1.2	9000	345,000	130	14,200	345,000	17.0	R118, M70
PVC (Rigid)	1.30 - 1.58	6,000 - 8,000	3.5 - 10	50 - 150		3 - 8	0.4 - 2.0	D65-85, M89, R107
PI (Polyimide) Unfilled	1.34	20,300		4	29,700	58.0	1.4	M110
PI (Polyimide) Glass Fiber	1.9	27,000		<1	50,000	32.5	17	M20
PI (Polyimide) 25% Graphite	1.45	5,700		<1	12,800	9	0.25	M110
PI (Polyimide) 15% Graphite	1.51	9,500		4.5	16,000	5.5	0.8	M88
PI (Polyimide) Laminates	1.95	50,000		<1	70,000	40	13	-
ACETAL (Copolymer)	1.41	8,800	400,000	55	13,000	400,000	1.3	M80
ACETAL (Homopolymer)	1.42	10,000	450,000	40	14,100	450,000	1.5	M94
PEEK (Unreinforced)	1.32	14,000-16,000	500,000-630,000	40	24,700	5.3	1.6	R126, D85, M99-100
PEEK (30% Glass)	1.49	14,000	1000	2.2	23,000	10	0.8	R126, D89, M103
PEEK (30% Carbon)	1.44	19,000	1100	5	25,750	12.5	1.03	D93, M102
PAI (Polyamide-imide)	1.4 - 1.6	10,000-23,000	400 - 1200	3 - 10	20,000-30,000	600 - 1,000	0.5 - 2.5	E66-E94, D90, M106-125
PEI (Polyetherimide)	1.3 - 1.5	16,500-17,000	480 - 850	2 - 80	20,000	500 - 900	0.5 - 1.0	R126, D86, M112-115
PTFE (Virgin)		2982-4970		250-400	809	49,700		D60-65
PP (Polypropylene) HPP	0.90 - 0.91	4,500 - 6,000	16,500 - 22,500	12	7000	17,000-25,000	1.9	R92
PP (Polypropylene) HPP Filled	0.97 - 1.27	3,500 - 16,000	37,500 - 100,000	1.5 - 80		21,000-100,000	0.6 - 12	R75-117
PP (Polypropylene) CPP	0.89 - 0.91	4,000 - 5,500	13,000 - 18,000	23	5400	13,000-20,000	7.5	R80
PP (Polypropylene) CPP Filled	0.98 - 1.24	2,500 - 10,000	5,000 - 35,000	2.2 - 50		21,000-96,000	0.6 - 4.0	R81-105
UHMW - Reprocessed	0.930 - 0.940	3,500-5,200	100,000-150,000	200 - 400		100,000-150,000	No Break	R64-68
UHMW - Virgin	0.930 - 0.940	4,800-6,200	100,000-150,000	350 - 400		100,000-150,000	No Break	R64-68
Natural Extruded	1.14	12,000	420,000	60	15,000	410,000	0.6 - .09	D80
Natural Cast	1.15	10,500-12,000	350,000-460,000	20-60	12,500-17,000	330,000-500,000		D78-83
Natural Oil	1.14	10,000-14,000	350,000-435,000	20-60	12,500-15,000	350,000-450,000		D74-78
Blue	1.15	10,500-12,000	350,000-460,000	20-40	12,500-17,000	330,000-450,000		D78-83
MD	1.15	10,500-12,000	350,000-460,000	20-40	12,500-17,000	330,000-450,000		D80
MD-Oil	1.15	10,000-12,000	350,000-450,000	20-45	12,500-15,000	420,000		D80-84
Oil	1.14	10,000	350,000-435,000	20-40	12,500-13,000	350,000-450,000		D80
SL	1.13	10,000-12,000	350,000-460,000	20-45	12,500-15,500	430,000		D80-84
TIVAR® 88	0.93	3000	102,000	300				D69
TIVAR® Dryslide	0.93	2770	118,643	200				D68
SYNSTEEL	> 1.8	2150		59		2300		R54
TUFFKAST	1.14	8,900-11,000	400,000	40-70	16,300	350,000	1.83-2.74	
TUFFKAST 010	1.13	8,900-10,000	400,000	45-70	16,000	320,000	2-2.74	
TUFFKAST 015	1.14	8,500-10,000	390,000	45-80	16,000	320,000	2-2.74	
FRP GRATING		4351	0.36		4351	0.26	25	

NYLONS

SPECIALTY

LAMINATES

PROPERTY	SPECIFIC GRAVITY	TENSILE STRENGTH	COMPRESSIVE STRENGTH	BONDING STRENGTH	FLEXURAL STRENGTH	SHEAR	IZOD IMPACT NOTCHED	HARDNESS
UNITS	g/cm ³	psi	psi	lb	psi	psi	ft-lb/in ²	scale as noted
ASTM TEST	D-792	D-229	D-229	D-229	D-229	D-229	D-732	D-229
PHENOLIC XXX Paper	1.34	15,000	36,000	950-1,200	20,000	7,000	0.5	110
PHENOLIC LE Fine Weave Fabric	1.34	14,000	38,000	1,800	22,000	11,000	1.5	100
PHENOLIC CE Med. Weave Fabric	1.37	13,000	37,000	2,000	19,000	10,000	1.8	105
PHENOLIC G-5 Glass Cloth	1.9	40,000	65,000	1,800	50,000	30,000	10.0	115
PHENOLIC G-9 Glass Cloth	1.9	45,000	65,000	1,700-2,300	55,000	-	13.0	120
PHENOLIC G-10 Glass Cloth	1.85	50,000	50,000	2,600	60,000	21,500	10.0	115

POLYURETHANE

PROPERTY	SPECIFIC GRAVITY	TENSILE STRENGTH	TENSILE MODULUS	ELONGATION AT BREAK	TEAR STRENGTH	COMPRESSION SET	IZOD IMPACT NOTCHED	HARDNESS
UNITS	psi	psi	psi	%	pli	%	ft-lb/in	scale as noted
ASTM TEST	D-792	D-412	D-412	D-412	D-470 SPLIT	S-395 METHOD B	D-746	D-676
Deadplate	1.21	3050	170	720	42	5	FLEXED	52A
54A	1.23	4500	250	490	16	1.2	FLEXED	54A
6060	1.16	4400	300	480	22	6	FLEXED	62A
70A	1.05	2500	310	650	60	31	FLEXED	70A
80A	1.05	3000	700	575	85	35	FLEXED	80A
430	1.1	5000	1050	450	95	30	FLEXED	90A
500	1.14	7000	1800	420	155	37	FLEXED	95A
Extreme	1.21	7240	1687	430	143	30	-	96A
600	1.14	8300	3000	320	135	40	-	60D
750	1.2	6382	5348	208	157	43	17	75D
750SXL	1.16	5681	5364	114	152	-	25	75D
SPS-2000	1.16	5271	4921	147	122	-	31	75D