

Product Selection

Material Properties

Sheets		Rods		Tubes	
extruded	3/8" – 6" x 24" x 48" 5/8" – 2" x 48" x 96" 5/8" – 2" x 48" x 120"	extruded	1/4" – 6" dia, 10 ft lengths 7" – 12" dia, 3 ft lengths	extruded	3/4" OD x 7/16" ID up to 20–1/2" OD x 13–1/2" ID
calandered	1/8" – 1/2" x 48" x 96" 1/8" – 1/2" x 48" x 120"	cast	2" – 4–1/2" dia, 10 ft lengths 5" – 12–1/4" dia, 4 ft lengths 13" – 23–1/2" dia, 2 ft lengths	cast	4" OD x 2" ID up to 42" OD x 37" ID
cast	1/4" – 4" x 24" x 48" 1/4" – 4" x 48" x 96"				

Material Selection

	Trade Name	Common Name	Chemical Reference
POM C	Sustarin C	Acetal Copolymer	POM C
	Sustarin C ESD 60	Acetal Copolymer Static Dissipative	POM C
	Sustarin C ESD 90	Acetal Copolymer Conductive	POM C
POM H	Sustarin H	Acetal Homopolymer "Delrin"	POM H
	Sustarin H AF	Delrin AF Blend	POM H + 13% PTFE Fiber
	Sustarin H AF – DE588	Delrin AF –DE588	POM H + PTFE
PA 6G	Sustamid 6G	Cast Nylon	PA 6
	Sustamid 6G Blue	Cast Nylon Blue	PA 6 Blue
	Sustamid 6G MO	Cast Nylon MoS2 Filled	PA 6 + MoS ²
	Sustamid 6G OL	Cast Nylon Oil Filled	PA 6 + Oil
PA 66	Sustamid 66	Extruded Nylon	PA 66
	Sustamid 66 GF 30	Extruded Nylon Glass Filled 30%	30% Glass Filled PA 66
	Sustamid 66 MO	Extruded Nylon MoS ² Filled	PA 66 + MoS ²
ABS	SustaABS	ABS	ABS
PPO	SustaPPO	Noryl EN 265	PPO Modified
PEI	SustaPEI	Ultem 1000	PEI
	SustaPEI GF 30	Ultem Glass-Filled 30%	30% Glass Filled PEI
PSU	Sustason PSU	Polysulfone	PSU
PPSU	Sustason PPSU	Radel R	PPSU
PPS	Sustatron PPS	PPS	PPS
PEEK	SustaPEEK	PEEK	PEEK
	SustaPEEK GF 30	PEEK Glass Filled 30%	30% Glass Filled PEEK
	SustaPEEK CF 30	PEEK Carbon Filled 30%	30% Carbon Fiber Filled PEEK
PVDF	SustaPVDF	Kynar 740	PVDF
PBT	Sustadur PBT	PBT	PBT
PET	SustaPET	PET	PET
	Sustadur PET TF	PET + PTFE	PET + PTFE
PC	Susta PC	Polycarbonate	PC
	Sustanat PC GF 20	Polycarbonate Glass Filled 20%	20% Glass Filled PC
PE	Polystone® G	High Density Polyethylene	HDPE
PP	Polystone® P-H	Polypropylene Homopolymer	PP Homopolymer
	Polystone® P-C	Polypropylene Copolymer	PP Copolymer

Specific Gravity	Tensile Strength	Tensile Modulus	Tensile Elongation	Flexural Strength	Flexural Modulus	Shear Strength	Compressive Strength	Rockwell Hardness	Rockwell Hardness	Durometer Shore D	Izod Impact Notched	Coefficient of Friction	Coefficient of Linear Thermal Expansion	Heat Deflection Temperature @ 66 psi	Heat Deflection Temperature @ 264 psi	Melting Point	Continuous Use	Thermal Conductivity	Volume Resistivity	Dielectric Strength	Dielectric Constant	Flammability	Dissipation Factor	Water Absorption 24 hours	Water Absorption Saturation	FDA Compliance
D792	D638	D638	D638	D790	D790	D732	D695	D785	D785	D2240	D256		D696	D648	D648				D257	D149	D150	UL 94	D150	D570	D570	
–	PSI	PSI	%	PSI	PSI	PSI	PSI	M	R	–	ft. lb/in	(dry vs. steel) Dynamic	in/in/°F	°F	°F	°F	°F	BTU in/hr/ft ² /°F	ohm-cm	volts /mil	1 MHz		1 MHz	% by weight	% by weight	
1.41	9,500	400,000	40	12,000	400,000	8,000	15,000	M88	R120	D85	1.2	0.21	5.5 x 10 ⁻⁵	320	225	330	180	1.6	10 ¹⁶	450	3.8	HB	0.004	0.2	0.9	Yes
1.33	11,000	425,000	30	18,000	450,000	6,000	8,000	M86	R120	D86	1	0.2	4.8 x 10 ⁻⁵	–	250	330	180	1.7	10 ⁹ –10 ¹¹	400	3.7	HB	0.005	1	2	No
1.44	11,400	425,000	5	16,000	1,050,000	8,000	15,000	M86	R120	D86	1	0.2	4.4 x 10 ⁻⁵	–	300	330	200	1.7	10 ⁹	400	3.7	HB	0.005	0.5	1	No
1.42	10,500	420,000	40	12,000	400,000	9,000	16,000	M89	R121	D83	1.2	0.12	6.7 x 10 ⁻⁵	290	242	347	185	2	10 ¹⁶	400	3.1	HB	–	0.2	0.7	Yes
1.50	8,000	410,000	20	12,500	450,000	–	15,000	M85	R115	D85	.7	–	5.1 x 10 ⁻⁵	334	248	347	185	2	10 ¹⁶	450	3.7	HB	0.009	0.2	0.8	No
1.54	6,630	540,000	30	12,500	405,000	–	12,600	M50	R110	D76	–	–	4.4 x 10 ⁻⁵	334	244	350	185	2	10 ¹⁶	400	3.1	HB	0.009	0.2	0.8	No
1.14	12,000	550,000	25	15,000	420,000	10,500	15,500	M85	R115	D78	0.6	0.22	4.5 x 10 ⁻⁵	370	195	450	200	1.7	>10 ¹³	500	3.8	HB	–	1	8.5	Yes
1.14	12,000	400,000	25	15,000	420,000	10,500	15,500	M85	R115	D78	0.6	0.22	4.5 x 10 ⁻⁵	370	195	450	230	1.7	>10 ¹³	500	3.8	HB	–	1	8.5	No
1.15	12,500	460,000	35	16,000	450,000	11,000	13,000	M80	R117	D80	0.6	0.22	4.0 x 10 ⁻⁵	370	200	430	200	1.7	>10 ¹²	410	3.8	HB	–	0.7	7	No
1.15	11,000	370,000	30	14,000	380,000	8,000	13,500	M85	R115	D74	1.2	0.12	5.0 x 10 ⁻⁵	380	200	430	210	1.7	>10 ¹³	500	3.7	HB	–	1	5	No
1.14	12,000	400,000	40	15,000	420,000	10,000	12,500	M85	R121	D80	0.6	0.25	4.5 x 10 ⁻⁵	390	195	500	220	1.7	>10 ¹³	350	3.8	HB	0.02	1	8.5	Yes
1.34	22,500	1,200,000	6	26,000	1,100,000	–	19,000	M101	R122	–	1.5	0.31	1.7 x 10 ⁻⁵	485	380	500	220	2	>10 ¹³	350	3.5	HB	0.018	0.7	5.5	No
1.15	12,000	450,000	25	17,000	460,000	10,500	16,000	M85	R115	D85	0.6	0.23	4.0 x 10 ⁻⁵	470	195	495	220	1.7	>10 ¹³	350	3.8	HB	0.02	1	8.5	No
1.04	6,100	310,000	40	10,500	340,000	–	7,600	–	R102	–	4.03	0.35	4.89 x 10 ⁻⁵	230	203	–	170	1.2	10 ¹⁶	450	3.2	HB	0.015	0.45	0.7	No
1.08	9,400	350,000	30	13,400	360,000	–	–	–	R119	–	3.5	0.39	3.3 x 10 ⁻⁵	289	260	–	220	1.6	10 ¹⁷	500	2.7	V-1	0.001	0.07	0.2	No
1.27	16,700	480,000	80	20,000	500,000	15,000	22,000	M114	R123	D86	0.6	0.2	3.1 x 10 ⁻⁵	405	395	460	340	1	10 ¹⁶	830	3.2	V-0	0.001	0.25	1.25	Yes
1.51	20,000	900,000	3	33,000	950,000	–	31,000	M115	R127	D86	1	0.24	1.1 x 10 ⁻⁵	414	410	442	340	1.8	10 ¹⁶	770	3.7	V-0	0.0016	0.2	0.9	No
1.24	10,200	360,000	30	15,400	390,000	9,000	13,900	M75	R125	D80	1.3	0.36	3.1 x 10 ⁻⁵	359	345	–	300	1.7	5.0 x 10 ¹⁶	425	3.06	V-0	0.005	0.3	0.6	Yes
1.29	11,000	390,000	30	15,500	350,000	9,000	14,000	M80	R120	D80	13	–	3.1 x 10 ⁻⁵	417	420	424	320	2.42	10 ¹⁶	400	3.4	V-0	0.002	0.37	1.1	Yes
1.35	13,000	480,000	15	21,000	575,000	9,000	21,000	M95	R125	D85	0.5	–	2.8 x 10 ⁻⁵	400	230	535	425	2	4.5 x 10 ¹⁶	540	3	V-0	0.001	0.01	0.03	–
1.32	16,000	500,000	20	25,000	600,000	7,700	18,000	M105	R126	D85	1.2	0.4	2.6 x 10 ⁻⁵	360	320	630	480	1.73	10 ¹⁶	480	3.3	V-0	0.003	0.1	0.5	Yes
1.51	24,000	1,300,000	3	28,000	1,350,000	14,000	26,000	M105	R126	D86	1.4	–	1.2 x 10 ⁻⁵	–	500	645	510	2.98	10 ¹⁶	500	–	V-0	–	0.1	0.3	No
1.41	20,000	1,100,000	5	25,000	1,300,000	–	29,000	M102	R124	D93	1	0.2	1.0 x 10 ⁻⁵	–	520	645	480	6.3	<10 ⁵	32	3.3	V-0	–	0.06	0.3	–
1.78	7,000	250,000	100	8,000	290,000	–	10,500	M75	R84	D77	3	0.58	6.6 x 10 ⁻⁵	270	230	335	290	0.75	10 ¹⁴	1600	8.5	V-0	0.06	0.03	0.05	Yes
1.31	8,000	425,000	30	14,000	425,000	–	–	M72	–	–	–	–	4.0 x 10 ⁻⁵	320	175	430	230	1.4	>10 ¹³	400	3	HB	–	0.25	0.4	Yes
1.41	12,000	460,000	30	17,000	480,000	8,000	15,000	M93	R125	D87	0.5	0.2	3.3 x 10 ⁻⁵	338	240	490	230	1.8	10 ¹⁶	385	3.1	HB	0.02	0.07	0.7	Yes
1.44	10,500	377,000	5	14,000	360,000	8,500	15,000	M94	–	D80	0.4	0.19	4.5 x 10 ⁻⁵	338	180	491	210	1.9	10 ¹⁶	400	3.2	HB	0.02	0.06	0.47	–
1.20	10,000	320,000	75	13,000	340,000	9,000	11,500	M75	R126	D80	10	0.38	3.8 x 10 ⁻⁵	295	280	310	250	1.3	>10 ¹³	380	3.2	V-0	0.006	0.15	0.35	No
1.35	16,000	860,000	6	19,000	800,000	–	16,000	M91	R122	D87	2	0.22	1.5 x 10 ⁻⁵	298	295	330	260	1.47	10 ¹⁷	490	3.13	V-1	0.0009	0.16	0.29	No
.95	3,000	–	–	–	175,000	–	–	–	–	D67	3.1	–	7 x 10 ⁻⁵	175	–	–	180	–	–	–	–	HB	–	<0.1	–	Yes
.91	4,700	232,000	–	–	180,000	–	–	–	–	D72	1.9	–	1.1 x 10 ⁻⁴	221	149	329	180	1.53	–	–	2.25	HB	0.0002	<0.1	0.03	Yes
.91	3,700	200,000	–	–	155,000	–	–	–	–	D68	8	–	1.1 x 10 ⁻⁴	221	149	329	180	1.53	–	–	2.25	HB	0.0002	<0.1	0.03	Yes

Test state: Dry. The specified electrical characteristic values were measured on the natural-colored, dry material. In the case of other colorings (particularly black) or moist material, significant changes in the electrical characteristic values can occur.

The short-term max. service temperature applies only to applications with extremely low loading over a few hours. The long-term max. service temperature is based on the thermal aging of the plastics due to oxidation, which results in a decrease in the mechanical properties.

Temperatures are specified which, after a minimum period of 5000 hours, cause a decrease in the tensile strength (measured at room temperature) by 50% compared with the initial value. This value does not provide any information about the mechanical strength of the material at high application temperatures. In the case of thick-walled parts, oxidation at high temperatures only affects the surface layer, which can be better protected by adding antioxidants. The core area of the parts always remains intact. The minimum service temperature is determined decisively by a possible shock or impact load during use.

The specified values refer to low impact loading. The specified values have been calculated as average values on the basis of numerous individual measurements and correspond to our present state of knowledge. They merely serve as information about our products and as guidance values when choosing materials