

**THERMOPLASTIC PROPERTIES**

Grade	Strength Properties					Elongation %	Maximum Operating Temperature	Thermal Expansion in/in./-Fx10s	Rc Hardness	Specific Gravity	Resistance to: *				
	Tensile KSI	Compressive KSI	Flexural Modulus PSI (10s)	Impact Ft. Lbs./in. notch	Dielectric V/mil						Acids		Alkalis		Organic Solvents
											Weak	Strong	Weak	Strong	
<b>ABS</b>	8.80	15.0	330	7.00	600	3.2	200°	5.30	R-105	1.040	R	AO	R	RT	A
<b>Acetal</b>	9.70	16.0	380	0.90	500	13.0	200°	5.80	M-94	1.430	R	A	R	A	S
<b>Acrylic Cast</b>	8.19	18.2	400	0.50	500.0	2.7	180°	3.50	M-94	1.190	R	AO	R	A	A
<b>Azdel</b>	12.40	8.0	800	21.40	500.0	2.1	311°	1.50	-	1.180	R	AO	R	R	R
<b>CPVC</b>	8.00	9.0	400	1.50	1250.0	4.0	212°	3.40	R-119	1.550	R	R	R	R	A
<b>HYDEX 301</b>	12.00	N/A	330	2.00	400.0	90.0	280°	3.20	R-123	1.200	R	R	R	R	T
<b>HYDEX 4101</b>	8.20	14.5	350	1.00	410.0	250.0	130°	6.00	M-117	1.310	R	RT	R	S	T
<b>HYDLAR G</b>	12.00	11.0	1100	2.60	450.0	N/A	485°	1.50	R-123	1.250	N/A	N/A	N/A	N/A	N/A
<b>HYDLAR Z</b>	20.00	19.3	900	2.70	350.0	4.0	470°	1.60	R-121	1.160	N/A	N/A	N/A	N/A	N/A
<b>Kynar PVDF</b>	6.65	11.6	390	3.00	260.0	80.0	180°	6.00	R-100	1.770	R	R	RT	A	T
<b>Noryl</b>	9.60	N/A	360	7.00	5.0	30.0	225°	3.30	R-119	1.060	R	R	R	R	S
<b>Nylon 6/6 Extruded</b>	12.50	14.0	435	1.50	280.0	240.0	230°	4.50	R-118	1.140	R	A	R	R	T
<b>Nylon 6/6M</b>	13.50	12.0	450	1.00	350.0	15.0	194°	4.20	R-119	1.150	R	A	R	R	T
<b>Nylon 6 Cast</b>	12.00	15.0	350	1.40	295.0	20.0	210°	4.50	R-100	1.150	R	A	R	R	T
<b>Nylon 6M Cast</b>	12.00	14.0	350	1.40	500.0	20.0	180°	4.10	R-100	1.170	R	A	R	R	T
<b>Nylon 6-OL Cast</b>	9.80	12.8	380	2.20	500.0	45.0	250°	4.20	R-100	1.150	R	A	R	R	T
<b>PEEK</b>	13.30	18.0	531	1.55	190.0	50.0	480°	4.70	R-126	1.320	R	RT	R	RT	RT
<b>PET</b>	11.50	13.0	400	0.70	1300.0	70.0	230°	3.90	M-95	1.380	R	S	A	A	R
<b>Polycarbonate</b>	9.50	12.5	340	14.00	380.0	110.0	290°	3.75	M-74	1.240	R	AO	A	A	A
<b>Polyether-sulfone (Unfilled)</b>	12.20	12.0	370	2.10	400.0	40.0	356°	3.00	M-88	1.370	R	R	R	R	A
<b>Polyether-sulfone (30%glass)</b>	20.30	20.0	1219	1.20	N/A	3.0	398°	2.30	M-98	1.600	R	R	R	R	A
<b>Polyethylene Lo Density</b>	1.80	N/A	41	No Break	500.0	600.0	160°	9.20	44-50 Shore D	0.910	R	AO	R	R	R
<b>Polyethylene Hi Density</b>	4.60	2.7	200	3.00	450.0	900.0	180°	8.50	66-73 Shore D	0.955	R	AO	R	R	R
<b>Polyethylene 819 UHMW</b>	6.80	N/A	110	No Break	710.0	450.0	176°	18.00	R-64	0.940	R	AO	R	R	R
<b>Polyethylene 819 UHMW Mech. Grade</b>	6.80	N/A	130	No Break	500.0	400.0	180°	20.00	R-64	0.940	R	AO	R	R	R
<b>Polyethylene Tivar-88</b>	5.60	N/A	115	28.00	390.0	334.0	205°	14.00	R-70	0.965	R	AO	R	R	R
<b>Polypropylene</b>	4.80	6.5	180	1.90	600.0	120.0	140°	10.20	R-92	0.905	R	AO	R	R	R
<b>Polysulfone</b>	10.20	40.0	390	1.30	420.0	50.0	325°	3.10	R-120	1.240	R	R	R	R	R
<b>Polyurethane Dur 50</b>	3.60	N/A	N/A	Flexed	N/A	520.0	225°	N/A	50 Shore A	1.170	T	A	S	S	A
<b>Polyurethane Dur 70</b>	6.50	N/A	N/A	Flexed	N/A	530.0	225°	N/A	70 Shore A	1.210	T	A	S	S	A
<b>Polyurethane Dur 90</b>	4.80	N/A	N/A	Flexed	N/A	465.0	225°	N/A	90 Shore A	1.100	T	A	S	S	A
<b>PVC Type I</b>	7.45	9.6	400	0.75	1400	40.0	150°	5.50	R-110	1.400	R	R	R	R	A
<b>PVC Type II</b>	6.40	8.6	350	10.90	1000	31.0	150°	2.95	R-108	1.370	R	R	R	R	A
<b>Ry-O-Line Tank Lining</b>	3.25	1.3	N/A	N/A	300	275.0	150°	8.90	95 Shore A	1.270	R	AO	R	R	A
<b>Ryton PPS</b>	11.00	24.3	550	1.00	385	3.0	480°	2.30	R-123	1.730	RT	A	R	R	RT
<b>Teflon Virgin Grade</b>	3.50	1.7	80	3.00	480	350.0	500°	5.00	R-58	2.160	R	R	R	R	R
<b>Teflon Mech Grade</b>	2.50	1.7	90	3.20	480	350.0	500°	5.00	R-58	2.140	R	R	R	R	R
<b>Torlon</b>	29.40	21.3	919	0.90	600	6.0	540°	5.00	M-109	1.450	R	R	S	A	R
<b>Ultem (Unfilled)</b>	15.20	20.3	480	1.00	831	60.0	392°	3.10	M-109	1.270	R	R	A	S	RT
<b>Ultem (30% Glass)</b>	24.50	25.5	1200	2.00	770	3.0	410°	1.10	M-125	1.510	R	R	A	S	RT

**\* CHEMICAL RESISTANCE DATA**

The data in this chart is based on room temperature exposure and is of necessity of a general rule. For critical applications, testing of the plastic in the proposed environment is strongly suggested. Since conditions, methods, equipment and applications vary, WS Hampshire cannot guarantee results equivalent to those listed.

**R** = Resistant  
**A** = Attacked - not suitable  
**S** = Some effect - suggest test.

**RT** = Generally resistant - suggest test  
**T** = Wide range of resistance - test  
**AO** = Attacked by strong oxidizing acids

1. Ft. Lbs./in.<sup>2</sup> Charpy Unnotched

The values shown in these charts are typically, average properties. Actual values may differ due to variations in resin formulations and processing methods. These values are obtained from sources believed to be reliable, including the resin manufacturers, converters and other published sources. However, they should not be used for specification or design purposes.