

TECHNICAL DATA SUMMARY		GENERAL USE				WEAR RESISTANCE - BEARING MATERIAL				CHEMICAL RESISTANCE			
PROPERTIES - ALL FIGURES ARE BASED ON TEST SAMPLES OF ONE THICKNESS AND THE RESULTS ARE INDICATIVE, NOT PRECISE FOR ANY SUPPLIED MATERIALS. THEY SHOULD NOT BE RELIED ON FOR COMMERCIAL PROJECTS.	COMMON NAME	ACRYLIC	POLY CARBONATE	FOAMED PVC	POLY STYRENE	ACETAL	PET(G)	UHMWPE	NYLON	ABS	PVC	PP	HDPE
	FULL NAME	A common trade name = "Perspex"	A common trade name = "Makrolon" or "Lexan"	A common trade name = "Foamex"	HIGH IMPACT POLYSTYRENE		THERMO PLASTIC POLYESTER	ULTRA HIGH MOLECULAR WEIGHT POLY ETHYLENE	66 POLYAMIDE 66	ACRYLO NITRILE BUTADIENE STYRENE	UNPLASTICISED PVC	POLYPROPYLENE	HIGH DENSITY POLYETHYLENE
ABBREVIATION		PMMA	PC	fPVC	HIPS	POM	PET(G)	UHMW PE	PA66	ABS	uPVC	PP	HDPE
DENSITY	g/cm ³	1.19	1.2	0.4 to 0.9	1.05	1.42	1.27	0.94	1.15	1.07	1.40	0.9	0.94
SHRINKAGE	%	0.2 to 0.8	0.5 to 0.7	N/A	0.2 to 0.8	1.8 to 2.5	0.2 to 1	4.00	0.7 to 3	0.7 to 1.6	0.40	2 to 3	1.5 to 4
UV RESISTANCE		Good	Poor but UV Grades	Good	Poor	Poor	Poor but UV Grades	Fair	Poor	Poor but UV Grades	Good	Poor but UV Grades	Poor & UV Grades
TRANSPARENCY (visible light)	%	80 to 93	87 to 89	No clear	90	No clear	88 to 91	No clear	No clear	No clear	Varies	85 to 90	80
H ₂ O ABSORPTION After 24 hours	%	0.1 to 0.4	0.1 - 0.2	<1	0.05 to 0.15	0.15 to 0.5	0.1 to 0.2	0.005 to 0.01	1 to 3	0.05 to 1.8	0.1	0.01 - 0.1	0.001
MAXIMUM CONTINUOUS WORKING TEMP (Zero Tensile effect at 11 years)	Low oC	-40	-30	-5	-40 to -20	-40	-40	-150	-30	-35	-20	-10	-40
	High oC	50 to 80	115	50	60 to 80	100	65	75	90	70	50	100	100
HARDNESS Shore D	M pa	90 to 99	85 to 95	>40	60 to 75	80 to 95	55	60 to 70	80 to 95	100	45 to 65	70 to 80	60 to 70
TENSILE STRENGTH AT BREAK	M pa	38 to 70	55 to 77	16	20 to 45	60 to 70	40	39 to 49	50 to 95	29 to 43	51	30 to 35	30 to 40
ELONGATION AT BREAK	%	2 to 10	100 to 150	27	10 to 65	15 to 75	50	200 to 500	150 to 300	10 to 50	60	200 to 500	500 to 700
FLEXURAL MODULAS	G pa	2.5 to 3.5	2.1 to 2.5	0.9	1.5 to 3	2.8 to 3.7	2.2	0.45 to 0.6	0.8 to 3	1.6 to 2.4	3	1.1 to 1.4	0.76 to 1.57
TOUGHNESS by NOTCHED IZOD IMPACT at room temperature	J/m	10 to 35	650 to 950	15	50 to 350	60 to 120	2 to 35	999	50 to 150	200 to 215	80	60 to 500	20 to 220
FIRE RESISTANCE	UL 94	HB - Little Smoke	V0 to V2	V0	HB	HB	HB	HB	HB	HB	V0	HB	HB
FIRE RESISTANCE	LOI %	19.5	26	N/A	17.5	18	24	17.5	21 to 27	19	40 to 45	17.5	17.5
DIELECTRIC STRENGTH (Insulation Value)	KV/ mm thick	30	35	N/A	12 to 24	HoP 20 CoP 50	70+	45	100	20	20 to 40	20 to 28	150
VOLUME RESISTIVITY	ohm/c	>10 ¹⁴	>10 ¹⁶	2x10 ¹⁶	>10 ¹⁶	>10 ¹⁴	4.1x10 ¹⁶	>10 ¹⁷	>10 ¹⁵	>10 ¹⁴	>10 ¹⁴	>10 ^{16TO18}	>10 ^{16TO18}
MATERIALS NOT LISTED INCLUDE		PTFE - Polytetrafluoroethylene, PSU - Polysulphone, PES - Polyethersulphone, PEI - Polyetherimide, These four latter polymers are known for there high heat tolerance and TUFNOL Phenolic Laminates for specific high tolerances, ACP Aluminium PE Composites are used for weather resistance and stiffness.											