

PHYSICAL PROPERTIES	ASTM METHOD	UNITS	COMMON NAME	PPO	ABS	POLYCARBONATE	GLASS-FILLED POLYCARBONATE	PBT	
			RESIN TRADE NAME	NORYL EN265	CYCOLAC GSE	LEXAN 1500	LEXAN	CELANEX 1700A	
			CHEMICAL NAME	POLYPHENYLENE OXIDE & STYRENE	ACRYLONITRILE BUTADIENE STYRENE	POLYCARBONATE	POLYCARBONATE WITH 20% GLASS	POLY BUTYLENE TEREPHALATE	
SPECIFIC GRAVITY	D792	$\frac{G}{cm^3}$	VALUE	1.06	1.04	1.20	1.35	1.31	
TENSILE STRENGTH AT YIELD	D638	PSI	GRAPHIC VALUE KPSI		9,600	6,500	9,000	16,000	8,700
ELONGATION AT BREAK	D638	%	GRAPHIC VALUE		30	20	110	6	200 - 300
TENSILE MODULUS	D638	PSI	GRAPHIC VALUE KPSI		330,000	320,000	345,000	860,000	390,000
COMPRESSIVE STRENGTH	D695	PSI	GRAPHIC VALUE KPSI		—	—	12,500	16,000	11,000
FLEXURAL STRENGTH	D790	PSI	GRAPHIC VALUE KPSI		13,500	11,000	13,800	19,000	11,600
FLEXURAL MODULUS	D790	PSI	GRAPHIC VALUE KPSI		340,000	330,000	340,000	800,000	350,000
ROCKWELL HARDNESS	D785	SCALE R-M	VALUE	R119	R105	M-70 R-118	M-91 R-122	R-120	
IMPACT STRENGTH (NOTCHED)	D256	$\frac{FT-LB.}{IN.}$	GRAPHIC VALUE		7.0	7.0	14.0	2.0	1.2
WEAR FACTOR AGAINST STEEL	—	$\frac{10^{-10} IN^3 MIN.}{FT/LB/HR}$	GRAPHIC VALUE		3,000	3,500	2,500	—	275
COEFFICIENT OF FRICTION	—	40 PSI 50 FPM	GRAPHIC VALUE		0.39	0.35	0.38	—	0.35

SPECIALTY PRODUCTS

Mechanical Properties

PHYSICAL PROPERTIES	ASTM METHOD	UNITS	COMMON NAME	RIGID URETHANE	RIGID URETHANE	POLYSULFONE	PEI	
			RESIN TRADE NAME	ISOPLAST 301	ISOPLAST 202	UDEL P-1700	ULTEM 1000	WEAR FORCE
			HYDE TRADE NAME	HYDEX 301	HYDEX 202		ULTEM	HYDLAR Z
			CHEMICAL NAME	POLYURETHANE	POLYURETHANE	POLYSULFONE	POLYETHERIMIDE	NYLON/ ARAMID FIBER
SPECIFIC GRAVITY	D792	$\frac{G}{cm^3}$	VALUE	1.20	1.20	1.24	1.27	1.14
TENSILE STRENGTH AT YIELD	D638	PSI	GRAPHIC VALUE KPSI					
ELONGATION AT BREAK	D638	%	GRAPHIC VALUE					
TENSILE MODULUS	D638	PSI	GRAPHIC VALUE KPSI					
COMPRESSIVE STRENGTH	D695	PSI	GRAPHIC VALUE KPSI					
FLEXURAL STRENGTH	D790	PSI	GRAPHIC VALUE KPSI					
FLEXURAL MODULUS	D790	PSI	GRAPHIC VALUE KPSI					
ROCKWELL HARDNESS	D785	SCALE R-M	VALUE	M-74 R-123	—	M-69	M-109	M-80 R-121
IMPACT STRENGTH (NOTCHED)	D256	$\frac{FT-LB.}{IN.}$	GRAPHIC VALUE					
WEAR FACTOR AGAINST STEEL	—	$10^{-10} \frac{IN^3 MIN.}{FT/LB/HR}$	GRAPHIC VALUE					
COEFFICIENT OF FRICTION	—	40 PSI 50 FPM	GRAPHIC VALUE					
			VALUE	—	—	0.37	0.17	0.28

SPECIALTY PRODUCTS

Mechanical Properties

PHYSICAL PROPERTIES	ASTM METHOD	UNITS	COMMON NAME	PVDF	TPE	PEEK	
			RESIN TRADE NAME	WEAR FORCE	KYNAR 740	HYTREL 5556	VICTREX 450G
			HYDE TRADE NAME	HYDLAR G	KYNAR	HYTREL	PEEK
			CHEMICAL NAME	POLYPHENYLENE SULFIDE & ARAMID FIBER	POLYVINYLIDENE FLUORIDE	THERMOPLASTIC ELASTOMETER	POLYETHER ETHERKETONE
SPECIFIC GRAVITY	D792	$\frac{G}{cm^3}$	VALUE	1.35	1.77	1.20	1.32
			GRAPHIC VALUE				
TENSILE STRENGTH AT YIELD	D638	PSI	VALUE	12,000	8,000	1,000	14,500
			GRAPHIC VALUE				
ELONGATION AT BREAK	D638	%	VALUE	—	50 - 250	500	50
			GRAPHIC VALUE				
TENSILE MODULUS	D638	PSI	VALUE	1,400,000	300,000	—	522,000
			GRAPHIC VALUE				
COMPRESSIVE STRENGTH	D695	PSI	VALUE	16,000	—	—	17,110
			GRAPHIC VALUE				
FLEXURAL STRENGTH	D790	PSI	VALUE	18,000	15,000	—	24,650
			GRAPHIC VALUE				
FLEXURAL MODULUS	D790	PSI	VALUE	1,100,000	325,000	30,000	594,500
			GRAPHIC VALUE				
ROCKWELL HARDNESS	D785	SCALE R-M	VALUE	R-123	—	—	M-99 R-126
			GRAPHIC VALUE				
IMPACT STRENGTH (NOTCHED)	D256	$\frac{FT-LB.}{IN.}$	VALUE	2.6	20-80	NO BREAK	1.57
			GRAPHIC VALUE				
WEAR FACTOR AGAINST STEEL	—	$\frac{10^{-10} IN^3 MIN.}{FT/LB/HR}$	VALUE	210	1,000	—	303
			GRAPHIC VALUE				
COEFFICIENT OF FRICTION	—	40 PSI 50 FPM	VALUE	0.35	0.24	—	0.34
			GRAPHIC VALUE				