



MATERIAL PROPERTIES

Property	Polyethylene		Polypropylene	Ethylene	Nylon	Thermoplastic	Silicone	Vinyl	
	Low Density	High Density		Vinyl Acetate		Rubber	Rubber	Standard	Hi-Temp.
MECHANICAL CHARACTERISTICS									
Specific Gravity (Density)	0.910-0.925	0.941-0.965	0.890-0.910	0.920-0.950	1.130-1.150	0.940-0.960	1.18	0.98-2.00	1.22-1.32
Tensile Strength (P.S.I.)	600-2300	3100-5500	2800-4400	1440-2500	900-12000	2400-3100	200-1500	50-5000	2100
Elongation %	90.0-800.0	20.0-1000.0	350.0->500.0	550-900	60-300	500-620	700	50-550	175
Compressive Strength (P.S.I.)	-	2700-3600	4000-6500	-	-	-	-	-	-
Tear Strength (ASTM D1004)	-	-	-	-	-	-	200pli	185pli	270pli
Flexural Strength (P.S.I.)	-	1000	6000-8000	-	No Break	-	-	-	-
Impact Strength ft. lb./in of notch(1/2 x 1/2 in, notched bar, izod test)	No Break	0.5-20.0	1.0-15.0 @ 73° F	No Break	1-5.5	-	-	-	-
Hardness, Rockwell	D41-D46 (Shore) R10	D60-70 (Shore)	R-50-R85	D17-45 (Shore)	-	-	A25-80 (Shore)	A60-70 (Shore)	A85-95
SERVICE TEMPERATURES									
Continuous ° C/° F	66/150	74/165	121/250	60/140	-	132/275	232/450	93/200	149/250
Intermittent ° C/° F	79/175	102/215	-	-	-	149/300	316/600	177/350	246/475
Brittleness ° C/° F	<-70/<-94	-18/0	<-70/<-94	<-68/<-90	-	0	-32/-29	-32/-26	-
RESISTANCE CHARACTERISTICS									
Water Absorption 24 hr. 1/8" thick %	<0.015	<0.01	<0.01	.05-.13	-	<.10	-	-	-
Effect of Sunlight	Unprotected material crazes rapidly. Requires black for complete protection.				-	-	Very Resistant	Good Resistance	Good Resistance
Effect of Weak Acids	Resistant	Very Resistant	Completely Resistant	Resistant	Resistant	Very Resistant	Poor	Very Resistant	Very Resistant
Effect of Strong Acids	Attacked by Oxidizing Acids	Attacked slowly by Oxidizing Acids	Attacked by Oxidizing Acids	Attacked by Oxidizing Acids	Attacked	Resistant	Poor	Fair Resistance	Fair Resistance
Effect of Weak Alkalies	Resistant	Very Resistant	Completely Resistant	Resistant	None	Very Resistant	Poor	Very Resistant	Very Resistant
Effect of Strong Alkalies	Resistant	Very Resistant	Very Resistant	Resistant	None	Very Resistant	Poor	Resistant	Resistant
Effect of Organic Solvents	Resistant (below 60° C)	Resistant (below 80° C)	Attacked by hydrocarbons and chlorinated hydrocarbons	Resistant	Resists Most	Swells in contact with hydrocarbons and chlorinated hydrocarbons	Moderate	Good Resistance to alcohols, aliphatic hydrocarbons and oils	Good Resistance to alcohols, aliphatic hydrocarbons and oils
Effect of Oils and Greases	Attacked by Some	Slight	Attacked by Some	Attacked by Some	None	Somewhat Resistant	-	Fair Resistance	Poor
Machine Qualities	Good	Excellent	Good	Fair	Good	Fair	Poor	Poor	Poor
Clarity (Natural Material)	Translucent to opaque	Translucent to opaque	Translucent	Translucent to opaque	Opaque	Opaque	Clear to opaque	Clear to opaque	-

DISCLAIMER

This guide contains recommendations for combinations of material that may come in contact with various corroding elements. All results are believed to be based on valid laboratory or field testing; however, no guarantee is expressed or implied as to results that will be obtained by the user. It is recommended the user test the combinations in its own laboratory before committing his product to any application. PMI is not responsible for any damage that might result from the use of this guide. This guide is not to be used as an inducement to violate any patent or any federal, state, or local law.

TOLERANCES

Inch Dimensions: Given to three decimal places: ±0.010 per inch. Minimum is ±0.010 where dimension is less than one inch.	Metric Dimensions: Given to two decimal places: ±0.25mm per 25.40mm of length. Minimum is ±0.25mm where dimension is less than 25.40mm.	Fractional Dimensions: ±1/32" per inch
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SPECIFICATIONS

Drawings and specifications: Standard catalog products are manufactured to PMI drawings and specifications. Should a customer's drawing deviate from PMI's it will not be recognized as valid.

