

<i>Properties</i>	<i>Silicone</i>	<i>Fluoroelastomer</i>	<i>Urethane</i>	<i>Ethylene-acrylic</i>	<i>Polysulfide</i>	<i>Epichlorohydrin</i>	<i>Chlorosulfonated Polyethylene</i>	<i>Chlorinated Polyethylene</i>	<i>Hydrogenated Nitrile</i>	<i>Polyacrylate</i>
<i>ASTM Designations</i>	<i>MQ</i>	<i>FKM</i>	<i>AU(Ester type) EU(Ether type)</i>	<i>AEM</i>	<i>T</i>	<i>ECO</i>	<i>CSM</i>	<i>CPE</i>	<i>HNBR</i>	<i>ACM</i>
Durometer (Shore A)	40-80	55-90	60-95	40-90	20-80	40-80	40-90	50-90	45-90	60-95
Specific Gravity (Polymer)	.95-1.6	1.85	1.05-1.25	1.08-1.12	1.35	1.27-1.36	1.18	1.16-1.32	.98-1.00	1.00
Tensile Strength Max-psi (Mpa)	1500 (10.3)	2000 (13.8)	8000 (55.2)	2000 (13.8)	1500 (10.3)	2000 (13.8)	3000 (20.7)	2000 (13.8)	3000 (20.7)	2000 (13.8)
Low Temperature Brittle Point - *F(*C)	-90 to -180 (-68 to -118)	-40 (-40)	-80 to -20 (-51 to -29)	-30 (-34)	-60 (-51)	-40 (-40)	-40 (-55)	-40 (-40)	-67 (-55)	-20 (-29)
Resilience	F to E	F to G	G	P	F	G	F	F	G	F to G
Compression Set	F to G	F to G	F	G	F	P	F to G	G	G	F to G
Heat Aging	E	E	G	E	F to G	G to E	G to E	G	G to E	G
Abrasion Resistance	P	G	E	G	P	F to G	G to E	G	G	F to G
Tear Strength	P	F	E	G	P	F to G	F	F	F to G	P to F
Flame Retardant Properties	F to G	E	P	P	P	F	G	G	P	P
Weathering Characteristics	E	E	E	E	G	E	E	G	G	E
Oxidation Resistance	E	E	G	E	G	G	E	E	G to E	E
Ozone Resistance	E	E	E	E	E	E	E	E	E	G to E
Oil Resistance	F	E	G	G	G	E	G	G	E	E
Acid Resistance	G	G to E	P	F	F	P	G to E	G to E	G	F
Resistance to Alkali Substances	E	P to G	P	F to G	G	F	E	E	G	P
Key Characteristics/Comments	Broad service temperature range	Heat and chemical resistance	Good tensile strength NOTE: polyesters and polyethers have different fluid resistance properties	Heat resistance	Used for some unique fluid resistant applications	Excellent fluid and high temperature resistance	Excellent weather resistance	Wire & cable	Similar to NBR. Best in high flex. high tensile applications	Good dynamic properties and flame resistance

Legend: P = Poor F = Fair G = Good E = Excellent

The information contained herein is provided as a general reference of basic polymer properties. It is not intended to replace traditional compound development and application approval procedures and its accuracy and completeness is not guaranteed. Actual compound properties depend on specific compound design and application requirements. Prior to use, the user should determine the suitability of a given compound for a specific application.

General Purpose Elastomers Selection Guide

<i>Properties</i>	<i>Ethylene Propylene Diene</i>	<i>Nitrile Rubber</i>	<i>Polychloroprene</i>	<i>Natural Rubber</i>	<i>Polyisoprene</i>	<i>Styrene Butadiene Rubber</i>	<i>Butyl Rubber</i>	<i>Polybutadiene</i>
<i>ASTM Designations</i>	<i>EPDM</i>	<i>NBR</i>	<i>CR</i>	<i>NR</i>	<i>IR</i>	<i>SBR</i>	<i>IIR</i>	<i>BR</i>
Durometer (Shore A)	40-90	40-90	40-90	30-90	30-90	40-90	40-80	40-80
Specific Gravity (Polymer)	.86	1.00	1.24	.92	.92	.94	.92	.93
Tensile Strength Max-psi (Mpa)	2000 (13.8)	2500 (17.3)	2500 (17.3)	3500 (24.1)	3000 (20.7)	2500 (17.3)	2000 (13.8)	2000 (13.8)
Low Temperature Brittle Point - °F(°C)	-70 (-58)	-60 (-51)	-65 (-54)	-70 (-58)	-70 (-58)	-70 (-58)	-70 (-58)	-100 (-73)
Resilience	G to E	G	G to E	E	G to E	G	P	E
Compression Set	G	G	F to G	G	G	G	F	G
Heat Aging	E	G	G	F	F	F to G	G to E	F to G
Abrasion Resistance	G	G	G	E	E	G to E	G	E
Tear Strength	P	F	G	E	G	F	G	G
Flame Retardant Properties	P	P	G	P	P	P	P	P
Weathering Characteristics	E	F to P	G to E	P	P	P	G to E	F
Oxidation Resistance	E	G	G to E	G	G	F	E	F
Ozone Resistance	E	F	G to E	P	P	P	G to E	P
Oil Resistance	P	E	G	P	P	P	P	P
Acid Resistance	E	G	G to E	F to G	F to G	F to G	E	F
Resistance to Alkali Substances	E	G	G to E	F to G	F to G	F to G	E	F
Key Characteristics/Comments	Ozone resistance good extendibility	Oil and fuel resistance	Flame and weather resistance	Tensile strength and tear resistance	Synthetic natural rubber	Abrasion resistance	Low gas permeability BIIR & CIIR offer improved cure characteristics	Excellent resilience, typically blended with other polymers

Legend: P = Poor F = Fair G = Good E = Excellent

The information contained herein is provided as a general reference of basic polymer properties. It is not intended to replace traditional compound development and application approval procedures and its accuracy and completeness is not guaranteed. Actual compound properties depend on specific compound design and application requirements. Prior to use, the user should determine the suitability of a given compound for a specific application.