

Properties of Common Elastomers

ASTM DESIGNATION (D1418)	(1) NR, IR	(2) SBR, BR	(3) IIR	(4) EPM, EPDM	(5) NBR	(6) CR	(7) AU, EU	(8) PMQ, MQ, VMQ	(9) FKM	(10) BR
COMMON NAME	Natural Rubber	SBR	Butyl	EPDM	Nitrile	Neoprene	Urethane	Silicone	Viton®	Butadiene
CHEMICAL NAME	Poly-isoprene	Styrene Butadiene	Isobutylene Isoprene	Ethylene Propylene	Butadiene Acrylonitrile	Chloroprene	Polyester/ Polyether Urethane	Poly-siloxane	Fluorinated Hydrocarbon	Poly-butadiene
PROPERTIES & CHARACTERISTICS										
ASTM D-2000-SAE J200- Designation	AA	AA,BA	AA,BA,CA	BA,DA	BF,BG,BK	BC,BE	BG	FC,FE,GE	HK	AA
ASTM Designation (D1418)	NR	SBR	IIR	EPDM,EPM	NBR	CR	AU,EU	PMQ,MQ,VMQ	FKM	BR
Specific Gravity	0.92	0.94	0.92	0.86	1	1.25	1.25	1.1-1.6	1.86	0.91
Durometer Range Available	30-90	40-80	20-90	40-90	40-95	10-90	5-100	20-90	60-90	40-90
Tensile Strength, PSI	4500	3500	3000	2500	4000	4000	5000	1500	3000	3000
Elongation	650	600	850	600	650	600	750	900	300	650
Compression Set	A	B	B	B	B	B	D	B	B	B
Resilience	High	Med	Low	Med	Med-Low	High	High-Low	High-Low	Low	High
Electrical Resistance (Polymer)	A	A	A	A	D	C	B	A	B	A
Impact Strength	A	A	B	B	C	B	A	D	B	B
Abrasion Resistance	A	A	C	B	A	A	A	C	B	A
Tear Resistance	A	C	B	C	B	B	A	C	B	B
Heat Aging at 212° F	C	B	A	B	B	B	B	A	A	C
Flame Resistance	D	D	D	D	D	B	D	A	A	D
High Temperature Service Limits +	160	220	220	260	220	220	160	400	485	160
Low Temperature - Stiffening ° F	-20 to -50	0 to -50	-20 to -50	-10 to -40	+30 to -20	+10 to -50	-10 to -30	-60 to -180	+10 to -10	-30 to -60
Weather-Sunlight Aging	D	D	A	A	D	B	A	A	A	D
Ozone Cracking	NR	NR	A	A	C	A	A	A	A	NR
Water	A	B	A	A	A	B	C	A	A	A
Steam	B	C	A	B	C	B	D	C	B	B

A: Very Good B: Good C: Fair D: Poor NR: Not recommended



Disclaimer: The information contained in this document is to be used as a guide only. RubberMill cannot guarantee the accuracy, or be held responsible for the information's end use. It is recommended that each elastomer be tested for its specific application. RubberMill can assist you regarding information on additional elastomers not listed on this chart. Viton is a DuPont Dow Registered Trademark.

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