General Properties Of O-Ring Elastomers

E Excellent
G Good
F Fair
P Poor
● No designation at time of publication

Elastomers	Apple Rubber Material Designation	ASTM D1418 Designation	ASTM D2000/SAE J200 Type, Class	Economy	Low/High Temp. Limits °F	Tensile Strength	Hardness Range Shore A	Resilience-Rebound	Compression Set	Adhesion to Metals	Abrasion Resistance	Tear Resistance	Weather Resistance	Ozone Resistance	Water Swell Resistance	Steam Resistance Under 300°F	Gas Impermeability	Acid Resistance, Conc.	Alkali Resistance, Conc.	Alcohols	Lubricating Oils Petroleum Based	Aliphatic Hydrocarbons	Aromatic Hydrocarbonds	Halogenated Hydrocarbons	Phosphate Ester	Polar Solvents (keytones)
Butyl	BU	IIR	AA; BA	F	-50 to +250	F-G	30-90	P-G	F-G	G	F-G	G	G	G	E	G	E	G-E	G-E	E	P	P	P	P	G	G
Chloroprene (Neoprene®)	CR	CR	BC; BE	G	-40 to +250	F	40-90	G	F-G	E	G-E	E	G-E	G-E	F-G	G	F-G	P	P	G-E	G	F	P	P	P	P
Epichlorohydrin	EH	CO; ECO	CH	F	-40 to +275	F	50-90	G	G	F-G	G	E	G-E	G	F-G	F-G	F	F	P-G	G	G-E	G	E	G	P	F
Ethylene Acrylic (Vamac®)	VA	AEM	EE	F	-13 to +338	F	50-90	F	P-G	G	G	G	E	E	G	P	P	P-G	P-G	F	G	G	P	F-G	P	G
Ethylene-Propylene	EP	EPM; EPDM	AA; BA; CA; DA	E	-40 to +275	G	40-95	G	F-G	G-E	G-E	F-G	E	E	E	E	F	E	E	G-E	P	P	P	P	E	G-E
Fluorocarbon	VT	FKM	HK	F	-13 to +446	F	45-90	F-G	G-E	G-E	G	F-G	E	E	G	P-G	G-E	E	P	F-G	E	E	E	E	G	P
Fluorosilicone	FS	FVMQ	FK	P	-75 to +400	P	40-80	E	G-E	G-E	P	P	E	E	E	F-G	P-G	G	F-G	G	E	F-G	G	G	P-G	P
Natural Rubber	NA	NR	AA	G	-58 to +158	G-E	40-90	E	G	E	E	E	P	P	E	P	F -P	F-G	F-G	G	P	P	P	P	P	F-G
Nitrile (Buna-N)	BN	NBR; XNBR	BF; BG; BK; CH	E	-40 to +257	G	40-90	G	G	E	G-E	G	P-F	P	G	F-G	F-G	F-G	P-G	F-G	G-E	G-E	F-G	P-F	P	P
Nitrile, Hydrogenated	HN	HNBR	DH	F	-30 to +300	G-E	50-90	G	G-E	G-E	G-E	G	G-E	G	G	E	G	G	G	E	E	G-E	F-P	P	P	P
Perfluoroelastomer (Kalrez®, Chemraz®)	KA	FFKM	KK	P	-13 to +600	F-G	65-90	F	F-G	G-E	F-G	F	E	E	G	E	G-E	E	E	E	G	E	E	F-G	E	P
Polyacrylate	PY	ACN	DF; DH	F	-25 to +300	F	40-90	F	G	G	F-G	E	E	G	P	P	G-E	P	F	P	F-G	E	P-G	P-G	P	P
Polytetrafluoro-ethylene (Teflon™)	TF	FEP	●	P	-300 to +450	F	98	P	P	P	E	E	E	G	G	E	G	E	E	E	E	E	E	E	P	P
Polyurethane, Cast	CP	AU; EU	BG	P	-30 to +175	E	70 & 90	F-G	P-G	E	E	E	E	G	G	P	G-E	P	P	G	G	P	F	P	P	P
Polyurethane, Millable	MP	AU; EU	BG	F	-30 to +175	G-E	40-90	F-G	G	E	G	E	E	E	G	P	G-E	P	P	G	G	P	F	P	P	P
Silicone	SL	MQ; PMQ VMQ; PVMQ	FC; FE; GE	G	-85 to +400	P	5-80	G-E	G-E	E	P	F-G	E	E	E	E	P	F-G	F-G	F-G	P	P	P	P	P-G	P
Styrene Butadiene	SB	SBR	AA; BA	E	-50 to +212	G	40 -90	P-G	G	E	E	P	F-G	P	G	F-G	F	G	F-E	G	P	P	P	P	G	P-G
Tetrafluoroethylene/ Propylene (AFLAS®)	AF	FKM	HK	P	+14 to +446	F	60-90	F-G	F-G	G	G	G	E	E	E	G-E	G	G	E	E	G	F	P	P	G	F