

General Properties Of O-Ring Elastomers

Elastomer	ASTM D1418 Designation		ASTM D2000/SAE 1200 Type Class		Economy		Low/High Temp. Limits °F		Tensile Strength		Elongation Maximum (%)		Hardness Shore A		Resilience-Rebound		Compression Set		Adhesion To Metals		Tear Resistance		Weather Resistance		Ozone Resistance		Water Swell Resistance		Steam Resistance		Gas Impermeability		Acid Resistance		Alkali Resistance		Alcohols		Lubricating Oils Petroleum Based		Aliphatic Hydrocarbons		Aromatic Hydrocarbons		Halogenated Hydrocarbons		Phosphate Ester (Sytro)		Polar Solvents (Ketones)	
	Appr. Material Designation	ASTM D1418	ASTM D2000/SAE	1200 Type Class	Economy	Low/High Temp. Limits °F	Tensile Strength	Elongation Maximum (%)	Hardness Shore A	Resilience-Rebound	Compression Set	Adhesion To Metals	Tear Resistance	Weather Resistance	Ozone Resistance	Water Swell Resistance	Steam Resistance	Gas Impermeability	Acid Resistance	Alkali Resistance	Alcohols	Lubricating Oils Petroleum Based	Aliphatic Hydrocarbons	Aromatic Hydrocarbons	Halogenated Hydrocarbons	Phosphate Ester (Sytro)	Polar Solvents (Ketones)																							
Tetrafluoroethylene/Propylene (Aflas™)	AF	FKM	HK	F	-14 to +446	F	400	60-90	F-G	F-G	F	G	E	E	G	G-E	G	G	G	G	G	G	F	F-G	F-P	G	F	G	G	G	G	G	G	F	F-G	F-P	G	F	G	F	F-G	F-P	G	F						
Butyl	BU	IIR	AA; BA	F	-50 to +250	F-G	800	30-90	P	F-G	G	G-E	G-E	E	E	G	G-E	E	E	E	E	E	P	P	P	G	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E					
Chloroprene (Neoprene™)	CR	CR	BC; BE	G	-45 to +250	F	600	40-90	G-E	F-G	G	G-E	G-E	E	E	P	F-G	G-E	G-E	G-E	G-E	G-E	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P				
Epichlorohydrin	EH	CO; ECO	CH	F	-40 to +275	F	400	50-90	GG	G	F-G	G	G-E	G	G	F-G	G-E	F	F	F	F	F-G	F-G	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F				
Ethylene Acrylic (Vamac™)	VA	AEM	EE; EF; EG	F	-13 to +338	F	450	50-90	F	G	G	G	E	E	E	G	P	G-E	P-G	P-G	P-G	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P			
Ethylene-Propylene	EP	EPDM; EPDM	AA; BA; CA; DA	E	-40 to +275	G	600	30-95	G	F-G	F-G	G	F-G	E	E	E	F	G	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E			
Fluorocarbon	VT	FKM	HK	F	-13 to +446	F	300	45-90	F-G	G	F-G	G	F-G	E	E	G	P	G-E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E			
Fluorosilicone	FS	FVMQ	FK	P	-75 to +400	P	600	40-80	G	G-E	F-P	P	P-F	E	E	E	P	P	G	F-E	G	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E			
Natural Rubber	NA	NR	AA	G	-58 to +158	G-E	700	40-90	E	G-E	E	E	E	E	E	P	F-P	F-G	G-E	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G		
Nitrile	BN	NBR; XNBR	BF; BG; BK; CH	E	-40 to +275	G	600	40-90	G	G-E	G-E	G	P-F	P	P	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G		
Nitrile, Hydrogenated	ZT	HNBR	DH	P	-30 to +300	G-E	340	50-90	G-E	G	G-E	G	G	G	G	G	G	G-E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E		
Perfluoroelastomer (Kalrez™, Chemraz™)	KA	FFKM	KK	P	-13 to +600	F-G	120 to 190	65-90	G	F	G-E	F	E	E	E	G	P	G-E	P-G	P-G	P-G	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P		
Polyacrylate	PY	ACM	DF; DH	F	-25 to +300	F	600	40-90	FF	G	F-G	E	E	E	E	P	F-G	P	P	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E		
Polysulfide	TH	T	AK; BK	P	-50 to +225	P	400	50-80	F	P	P	P	G-E	E	E	P	G-E	F-P	P	G-E	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F			
Polytetrafluoroethylene (Teflon™)	TF	FEP	▲	P	-300 to +450	F	300	98	F-G	G-E	E	E	G	F-G	P	P	P-G	F	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E		
Polyurethane, Cast	CP	▲	▲	P	-30 to +175	E	650	70-80	G-E	P-G	E	E	G	G	P	P	G-E	P	F	P	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G		
Polyurethane, Milled	MP	AU; EU	BG	F	-30 to +175	G-E	500	40-90	F-G	G-E	G	P	E	E	E	F-P	P	P-G	E	G-E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E		
Silicone	SL	MQ; PMQ; VMQ; PVMQ	FC; FE; GE	F	-85 to +400	P	800	20-80	G	G	E	E	F-G	P	E	P	F-G	F-G	G-E	P	F-G	F-G	F-G	F-G	F-G	F-G	F-G	F-G	F-G	F-G	F-G	F-G	F-G	F-G	F-G	F-G	F-G	F-G	F-G	F-G	F-G	F-G	F-G	F-G	F-G	F-G	F-G			
Styrene Butadiene	SB	SBR	AA; BA; EG	E	-50 to +212	G	600	40-90	P	G	P	P-G	P	E	E	E	G	E	F-E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	

E=Excellent G=Good F=Fair P=Poor ▲=No designation at time of publication Blank =Information not available or conflicting