



SELECTION OF ELASTOMERS

Elastomer Grade	Abbreviation	Material Designation ASTM D2000/ SAE J 200	Gum (Raw) Polymer Density(g/cc)	Hardness Range Shore A	Original Tensile Strength, PSI (Max.)	Original Elongation (Max.) %	Resistance to Tear Strength	Resistance of Abrasion
Natural & Synthetic Isoprene Rubber	NR (IR)	AA	0.91-0.94	30-95	4000	700	Very High	Medium/High
Polybutadiene Rubber	BR	AA	0.91-0.91	40-80	2500	450	Low/Medium	Very High
Styrene Butadiene Rubber	SBR	AA, BA	0.93-0.94	40-95	2500	600	High	High
Butyl Rubber	IIR	AA, BA	0.92-0.93	30-95	2500	700	Medium/High	Medium
Chlorobutyl Rubber	CIIR	AA, BA	0.92-0.93	30-90	2500	700	Medium/High	Medium
Bromobutyl Rubber	BIIR	AA, BA	0.92-0.93	30-90	2500	700	Medium/High	Medium
Polysulphide Rubber (Thiokol)	T	AK	1.34-1.36	20-80	1500	400	Low	Low
Ethylene Propylene Co polymer	EPM	AA, BA, CA, DA	0.86-0.89	30-90	2500	600	Low	Low
Ethylene Propylene Diene Ter polymer	EPDM	AA, BA, CA, DA	0.86-0.88	30-90	2500	600	Medium	Medium
Polychloroprene Rubber (Neoprene, Byaprene, Skyprene)	CR	BL, BE	1.23-1.25	30-95	3500	700	High	Medium/High
Epichlorhydrine Rubber	ECO/CO	CH	1.25-1.35	40-90	2500	400	Medium	Medium
Acrylic Ester / Ethylene Co Polymer (VAMAC)	AEM	EE	1.03-1.05	40-90	2000	400	Medium	Medium
Nitrile Rubber (Acrylo Nitrile Butadiene Rubber)	NBR	BF, BG, BK, CH	0.97-1.00	40-95	3000	600	Medium	High
Carboxylated Nitrile Rubber	XNBR	BF, BG, BK, CH	0.97-1.00	40-95	3000	500	Medium	Very High
Hydrogenated Nitrile Rubber	HNBR	DH	0.97-1.00	40-95	3000	600	Medium	High
Chlorinated Polyethylene (Tyrene)	CM	BL, BE, CE, DE	1.16-1.25	40-90	2500	500	Medium	Medium
Chloro Sulphonated Polyethelene (Hypalon)	CSM	CE, DE	1.10-1.20	50-95	2500	500	Medium/High	Medium
Polyacrylate Rubber	ACM	DF, DH, EH	1.10-1.13	40-90	2000	400	Medium	Medium
Polyurethane Rubber (Ester, Ether)	AU, EU	BG	0.80-1.20	50-100	5500	600	High	High
Silicone Rubber	MQ, VMQ, PVMQ	FC, FE, GE	1.10-1.16	40-90	1500	800	Low	Low
Fluro Silicone Rubber	FVMQ	FK	1.35-1.45	50-80	1250	400	Low	Low
Fluro Carbon Rubber (Aflas, Fluorel, Viton)	FKM	HK	1.75-1.95	60-90	2500	350	Medium	Medium

Glass Transition Temperature (°C)	Low Temperature Resistance (°C)	Ozone & Weather Resistance (°C)	Compression Set	Working Temp (°C)	Volume Swelling after 70 hrs. in ASTM Oil #3 (%)	Volume Swelling after 70 hrs. at RT in Fuel C (%)	Gasoline Resistance	Diesel Resistance	Brake Fluid Resistance	Transmission Fluid Resistance	Coolant Resistance	Engine Oil Resistance	Tube & Grease Resistance	Water Resistance
-72	-45	Poor	Very Good	90	> 140 (70°C)	-	Poor	Poor	Good	Poor	Good	Poor	Poor	Good
-112	-72	Poor	Good	75	> 140 (70°C)	-	Poor	Poor	Good	Poor	Good	Poor	Poor	Good
-50	-28	Poor	Good	100	> 140 (70°C)	-	Very Poor	Poor	Very Good	Poor	Good	Poor	Poor	Good
-66	-38	Very Good	Good	130	> 140 (70°C)	-	Poor	Very Poor	Good	Poor	Good	Poor	Poor	Good
-66	-38	Very Good	Good	130	> 140 (70°C)	-	Poor	Very Poor	Good	Very Poor	Good	Very Poor	Good	Good
-66	-38	Very Good	Good	130	> 140 (70°C)	-	Poor	Very Poor	Good	Very Poor	Good	Very Poor	Poor	Good
-50	-30	Very Good	Poor	100	20 (70°C)	-	Very Good	Very Good	Poor	Excellent	Fair	Very Good	Very Good	Fair
-35	-35	Very Good	Good	140	> 140 (70°C)	-	Very Poor	Very Poor	Very Good	Very Poor	Good	Very Poor	Poor	Good
-55	-35	Very Good	Good	130	> 140 (70°C)	-	Very Poor	Very Poor	Very Good	Very Poor	Good	Very Poor	Poor	Good
-45	-25	Fair Good	Fair Good	100	80 (100°C)	-	Poor	Poor	Poor-Fair	Poor	Fair-Good	Poor-Fair	Poor-Fair	Good
-45	-25	Good	Fair Good	130	15 (150°C)	40	Good	Good	Poor	Good	Fair-Good	Good	Good	Fair
-40	-20	Very Good	Good	160	50 (150°C)	-	Poor-Fair	Good	Poor	Good	Poor	Good	Very Good	Poor
-35	-20	Poor	Good	115	25 (150°C)	45	Fair-Good	Very Good	Poor	Very Good	Good	Good	Good	Good

-30	-18	Good	Good	150	15 (150°C)	65	Fair-Good	Very Good	Poor	Very Good	Good	Good	Good	Good
-30	-18	Good	Good	150	15 (150°C)	65	Fair-Good	Good	Poor	Good	Good	Good	Good	Good
-25	-12	Outstanding	Fair-Good	140	80 (150°C)	75	Poor	Poor	Poor	Poor	Good	Fair	Fair-Good	Good
-25	-10	Outstanding	Fair-Good	130	80 (150°C)	-	Poor	Poor	Poor	Poor	Good	Fair	Fair-Good	Good
-20 to -40	-10 to -40	Very Good	Good	150	25 (150°C)	65	Poor-Fair	Good	Poor	Very Good	Poor	Good	Good	Poor
-35	-22	Good-Excellent	Poor	70	40 (150°C)	-	Fair-Good	Very Good	Poor	Good	Poor	Good	Good	Poor
-120	-85	Very Good	Good	180	50 (150°C)	-	Very Poor	Poor	Fair	Poor	Good	Poor	Fair	Very Good
-70	-45	Very Good	Good	200	10 (150°C)	25	Good	Good	Very Poor	Good	Very Good	Good	Good	Very Good
-18 to -50	-10 to -35	Very Good	Very Good	225	5 (150°C)	5	Very Good	Very Good	Poor	Very Good	Very Good	Very Good	Very Good	Good

Acid Resistance	Base Resistance
Fair	Good
Good	Good
Fair	Fair
Good	Good
Good	Good
Good	Good
Poor	Fair
Good	Good
Good	Good
Good	Good
Fair	Fair
Poor	Poor
Fair	Good

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Fair	Good
Fair	Good
Good	Good
Very Good	Good
Poor	Poor
Poor	Poor
Fair	Fair
Very Good	Very Good
Fair	Fair

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