

# PROPERTIES OF ELASTOMERS

Properties Chemical Name	Natural Rubber Polyisoprene	SBR or GR-S or Buna S Buladiene styrene	Butyl Isobutylene isoprene	Nitrile (Buna N) Butadiene acrylonitrile	Neoprene Chloroprene	Silicone Polysiloxane polymer	EPDM Rubber Ethylene Propylene polymer
<b>Material Designation</b> (ASTM 0-2000.SAE J200 Classification)1981	AA	AA	BA	BF,BG,BK, CH	BC,BE	FE	BA,CA,DA
<b>Tensile Strength</b> PSI	Over 3000	Over 2000	Over 2000	Over 2000	Over 3000	Below 1500	Over 2000
<b>Hardness Range</b> (Durom A)	30-90	40-90	40-75	40-95	40-95	50-80	40-90
Specific Gravity Polymer	0.93	0.94	0.92	1	1.23	1.14 2.05	0.86
Adhesion to Metals	Excellent	Excellent	Good	Excellent	Excellent	Excellent	Fair
Adhesion to Fabrics	Excellent	Good	Good	Good	Excellent	Excellent	Good
Tear Resistance	Very Good	Fair	Good	Fair	Good	Poor	Fair
Abrasion Resistance	Excellent	Good to Excellent	Good	Good	Excellent	Poor	Good to Excellent
<b>Compression Set</b>	Good	Good	Fair	Good	Fair to Good	Fair	Good
<b>Rebound</b>							
Cold	Excellent	Good	Poor	Good	Good	Excellent	Excellent
Hot	Excellent	Good	Very Good	Good	Very Good	Excellent	Excellent
Dielectric Strength	Excellent	Excellent	Excellent	Poor	Very Good	Good	Outstanding
Electrical Insulation	Good to Excellent	Good to Excellent	Good to Excellent	Poor	Fair to Good	Excellent	Outstanding
Permeability to Gases	Fairly low	Fairly low	Very Low	Low	Low	Fairly Low	Fairly Low
<b>Acid Resistance</b>							
Dilute	Fair to Good	Fair to Good	Excellent	Good	Excellent	Excellent	Excellent
Concentrated	Fair to Good	Fair to Good	Good	Good	Good	Fair	Good
<b>Solvent Resistance</b>							
Aliphatic hydrocarbons	Poor	Poor	Poor	Excellent	Fair to Good	Poor	Poor
Aromatic hydrocarbons	Poor	Poor	Poor	Good	Fair	Poor	Poor
Oxygenated (Ketones, etc)	Good	Good	Good	Poor	Poor to Fair	Fair	Excellent
Lacquer solvents	Poor	Poor	Fair to Good	Fair	Poor	Poor	Fair to Good
<b>Resistance to</b>							
Swelling in Lubricating oil	Poor	Poor	Poor	Very Good	Good	Fair	Poor
Oil and gasoline	Poor	Poor	Poor	Excellent	Good	Fair	Poor
Animal and Vegetable oils	Poor to Good	Poor to Good	Very Good	Very Good	Good	Good to Excellent	Good to Excellent
Water absorption	Very Good	Good to very good	Very Good	Good	Good	Excellent	Excellent
Oxidation	Good	Fair	Excellent	Good	Very Good	Excellent	Excellent
Ozone	Poor	Poor	Excellent	Fair	Very Good	Excellent	Outstanding
Sunlight aging	Poor	Poor	Very Good	Poor	Very Good	Excellent	Outstanding
Heat aging	Fair	Fair to Good	Very Good	Good	Good	Outstanding	Excellent
Low temperature	Very Good	Very Good	Good	Fair to Good	Good	Outstanding	Excellent
Flame	Poor	Poor	Poor	Poor	Good	Fair to Good	Poor to Good