



## Rubber Specifications - Comparative Properties of Typical Elastomer Products

ANSI/ASTM D1418-77	NR/IR	AU/EU	CR	NBR	CIIR	CSM	EPDM	FKM	AFMU	SI	SBR
Elastomer Common Name	Gum/Natural	Urethane	Neoprene	Nitrile/Buna-N	Chlorobutyl	Hypalon	EPDM/EPT	Viton/Fluorel	Teflon	Silicone	GRS/Buna-3
ASTM D-200; SAE J-2000 MIL STD 417	AA RN	BG SB	BC-BE SC	BF-BG-BK-CH SB	AA-BA RS	CE SC	BA-CA-DA RS	HK	-	FC-FE-GE TA	AA-BA RS
Chemical Name	Polyisoprene	Polyester Polyether Urethane	Poly- Chloroprene	Butadiene Acrylo-Nitrile	Chloro- Isobutylene Isoprene	Chloro- Sulfonated Polyethelene	Ethylene Propelene Polymer	Flourinated Hydrocarbon	Tetrafluoro- Ethylene Resin	Poly-Siloxane	Styrene Butadiene
Hardness Range: Duro A	30-90	60-95	40-95	40-95	40-75	40-95	40-90	55-95	-	40-85	40-90
Specific Gravity of Base	0.93	1.06	1.23	1	0.92	1.12 - 1.28	0.86	1.85	-	1.14 - 2.05	0.94
Low Temp.- Min. Service F	.20 to -60	-10 to -30	-10 to -50	+30 to -40	10 to -60	-30 to -60	-20 to -60	+10 to -10	-120	60 to -150	0 to -50
High Temp.- Max Service F	185	185	220	240	250 to 300	275	275	400 to 600	450	460	195
Abrasion	Excellent	Outstanding	Excellent	Good	Good	Excellent	Good to Excellent	Good	Good	Poor	Good to Excellent
Asorption, Water	Verry Good	Good	Good	Good	Very Good	Very Good	V. Good to Excel	Very Good	-	Excellent	Good to V. Excel
Acid-Concetrated	Fair to Good	Poor	Good	Good	Good	Very Good	Excellent	Excellent	Excellent	Fair	Fair to Good
Acid-diluted	Fair to Good	Fair	Excellent	Good	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Fair to Good
Adhesion to Fabrics	Excellent	V-Good to Excel.	Excellent	Good	Good	Good	Good	Good to Excellent	Fair to Good	Excellent	Good
Adhesoin to Metals	Excellent	Excellent	Excellent	Excellent	Good	Excellent	Good to Excellent	Fair to Good	Fair to Good	Excellent	Excellent
Chemicals	Fair to Good	Fair	Fair to Good	Fair to Good	Excellent	Excellent	Excellent	Excellent	Excellent	Good to Excellent	Fair to Good
Cold	Excellent	Excellent	Good	Fair to Good	Good	Good	Excellent	Good	Excellent	Outstanding	Very Good
Dielectric Strength	Excellent	Excellent	Good	Poor	Excellent	V. Good to Excel	Excellent	Good	-	Good	Excellent
Dynamic Properties	Excellent	Excellent	Fair	Good to Excel	Fair	Fair	Good to Excellent	Good to Excellent	-	Poor	Good
Electric Insulation	Good to Excellent	Fair to Good	Fair to Good	Poor	Good to Excellent	Good	Excellent	Fair to Good	-	Excellent	Good to Excellent
Flame	Poor	Fair	Good	Poor	Poor	Good	Poor	Excellent	Excellent	Fair to Good	Poor
heat	Good	Good	Very Good	Good	Very Good	Excellent	Excellent	Outstanding	Excellent	Outstanding	Fair to Good
Heat Aging	Fair	Good	Good	Good	Very Good	Very Good	Excellent	Outstanding	Excellent	Outstanding	Fair to Good
Hydrocarbons - Aliphatic	Poor	Good to Excellent	Fair to Good	Excellent	Poor	Fair to Good	Poor	Excellent	Excellent	Poor	Poor
Hydrocarbons - Aromatic	Poor	Fair to Good	Fair	Good	Poor	Fair	Poor	Excellent	Excellent	Poor	Poor
Hydrocarbons - Oxygenated	Fair to Good	Poor	Poor	Poor	Good	Poor to Fair	Good to V. Good	Poor	Excellent	Fair	Good
Impermeability	Fairly Low	Fairly Low	Low	Low	Very Low	Low to Very Good	Fairly Low	Very Low	-	Fairly Low	Fairly Low
Oil-Animal & Vegetable	Poor to Good	Good to Excellent	Good	Very Good	Very Good	Good	Good	Excellent	Excellent	Good to Excellent	Poor to Good

Oil & Gasoline	Poor	Good to Excellent	Good	Excellent	Poor	Good	Poor	Excellent	Excellent	Fair	Poor
Oxidation	Good	Excellent	V. Good to Excel	Good	Excellent	Excellent	Excellent	Outstanding	Excellent	Excellent	Fair
Ozone	Poor to Fair	Excellent	V. Good to Excel	Fair	Excellent	Outstanding	Outstanding	Outstanding	Excellent	Excellent	Poor
Radiation	Excellent	Very good	Very Good	Very Good	Good	Very Good	Outstanding	Very Good	Fair to Good	Very Good	Excellent
Rebound - Cold	Excellent	Good	Very Good	Good	Poor	Fair to Good	Very Good	Fair to Good	-	Excellent	Good
Rebound - Hot	Excellent	Good	Very Good	Good	Very Good	Good	Very Good	Good	-	Excellent	Good
Set Compression	Good	Fair	Fair to Good	Good	Fair	Fair	Good	Fair to Good	-	Fair	Good
Solvents - Lacquer	Poor	Poor	Poor	Fair	Fair to Good	Poor	Poor to Fair	Poor to Fair	Excellent	Poor	Poor
Steam	Fair to Good	Poor	Fair	Fair to Good	Good	Fair	Excellent	Fair to Good	-	Fair	Fair to Good
Sunlight Aging	Poor	Good	Very Good	Poor	Very Good	Outstanding	Outstanding	Outstanding	Excellent	Excellent	Poor
Swelling in Oil	Poor	Good to Excellent	Good	Very Good	Poor	Good to Excel	Poor	Excellent	-	Fair	Poor
Tear	Good to V-Good	Excellent	Good	Fair	Good	Fair	Fair to Good	Fair	-	Poor	Fair
Tensile Strength	Excellent	Excellent	Good	Good to Excel	Good	Fair	Good to Excellent	Good to Excellent	-	Poor	Good to Excellent
Water	Fair to Good	Poor	Fair	Fair to Good	Good	Fair	Excellent	Fair to Good	Excellent	Fair	Fair to Good
Weather	Fair	Excellent	Excellent	Fair	Good to Excel	Excellent	Excellent	Excellent	Excellent	Excellent	Fair
<b>Generally Resistant To:</b>	Water, Air and Average Concentration Acids, Bases Alcohols, Best Abrasion Resistance	Moderate Chemicals, Oils, Fats, Greases and Many Hydrocarbons	Moderate Acids and Chemicals, Ozone, Oils, Fats and Many Solvents, Oily Abrasive Applications	Moderate Acids and Chemicals, Ozone, Oils, Fats and Many Solvents, Oily Abrasive Applications	Animal and Vegetable Oils, Fats, Greases, Air, Gas, Water, Many Oxidizing Chemicals and Ozone	Strong Acids, Bases & Freons, Hydroxide, Ozone Alcohols, Etching Alkaline and Hypochlorite Solutions	Vegetable & Animal fats, Oils Ozone, many Strong and Oxidizing Chemicals, Ketones, Alcohols	All Aromatic, Aliphatic and Halogenated Hydrocarbons, Many Acids, Animal and Vegetable Oils	Most Known Fluid Chemicals	Moderate or Oxidizing Chemicals, Ozone, Concentrated Sodium Hydroxide	Water, Air, Anti-Freeze, Detergents, Salt Solutions, Bases, Alcohols and some Acids
<b>Generally Affected By:</b>	Not For: Ozone Strong Acids, Bases, Oils Solvents, Most Hydrocarbons	Not For: Concentrated Acids, Ketones, Esters, Chlorinated and Nitro Hydrocarbons	Not For: Ozone Ketones, Esters Aldehydes, Nitro and Chlorinated Hydrocarbons, Polar Solvents, MEK	Not For: Ozone Ketones, Esters Aldehydes, Nitro and Chlorinated Hydrocarbons, Polar Solvents, MEK	Not for: Oils, Greases, Solvents and Ozone, Hydrocarbons	Not For: Ketones Esters, Certain Chlorinated Oxidizing Acids, Chlorinated, Nitro and Aromatic Hydrocarbons	Not For: Mineral Oils, Solvents Aromatic Hydrocarbons	Not For: ketones Esters, and Nitro Containing Compounds	Not For: Molten Alkali, Metals, Flourine, and Related Compounds	Not For: many Solvents, Oils, Concentrated Acids, Sulfurs	Not For: Oils, Greases, Solvents and Hydrocarbons, Ozone and Strong Acids

**\*\*Notes: Temperature rating depends upon operating pressure and if service is continuous.**