

# Physical properties of elastomer compounds



	Common Name	Natural Rubber	SBR	Butyl	EPDM	Neoprene®	Nitrile	Polysulfide	Millathane® Polyurethane	Silicone	Hypalon®	Viton® Fluoroelastomers
Weight of Base Elastomer	lb/cu in.	0.033	0.034	0.033	0.031	0.044	0.036	0.048	0.039	0.036	0.04	0.05-0.07
	Specific Gravity	0.93	0.94	0.92	0.86	1.23	1	1.34	1.05	0.95	1.1	1.4 to 1.95
Physical Properties	Durometer Range	30-100	40-100	30-100	30-90	45-95	20-90	20-80	25-90	25-80	50-95	65-90
	Resilience	Excellent	Good	Fair	Good	Excellent	Good	Fair	Good to Excellent	Poor to Excellent	Good	Fair
	Tensile Strength, psi (Reinforced)	4000+	2000+	2000+	2000-3000	3000+	1000-3500+	500-1500	4000-8000	600-1500	1500-2500	1500-3000
	Elongation, % Reinforced	500	450	300-800	500	650-850	400-600	200-550	250-800	90-800	250-500	100-450
	Drift, Room Temperature	Excellent	Excellent	Fair	Fair	Fair to Good	Good	Poor	Good to Excellent	Fair to Excellent	Fair	Good
	Compression Set	Good	Good	Fair	Fair	Fair to Good	Good	Poor to Fair	Excellent	Good to Excellent	Fair to Good	Good to Excellent
	Electrical Resistivity	Excellent	Excellent	Excellent	Excellent	Fair	Poor	Fair	Good	Excellent	Good	Good
	Impermeability, Gas	Good	Fair	Excellent	Good	Good	Good	Excellent	Good	Fair	Excellent	Excellent
Mechanical	Resistance to Impact	Excellent	Excellent	Good	Good	Good	Fair	Poor	Excellent	Poor to Fair	Fair to Good	Poor to Good
	Resistance to Abrasion	Excellent	Excellent	Good	Good	Good to Excellent	Excellent	Poor to Fair	Excellent	Poor to Good	Good	Good
	Resistance to Tear	Excellent	Fair	Good	Poor	Good	Good	Poor to Fair	Excellent	Poor to Good	Fair to Good	Poor to Good
	Resistance to Cut Growth	Excellent	Good	Excellent	Good	Good	Good	Poor	Fair to Excellent	Poor to Good	Fair to Good	Poor to Good
	Tensile Strength, psi at 250°F	1800	1200	1000	2000	1500	700	700	1800	850	500	300-800
	psi at 400°F	125	170	350	400	180	130	Under 25	200	400	200	150-300
	Elongation, % at 250°F	500	250	250	300-500	350	120	140	300	350	60	100-350
	% at 400°F	80	60	80	0-120	0-100	20	Under 25	140	200	20	50-160
Temperature	Drift at 212°F	Good	Good	Fair	Fair	Fair to Good	Excellent	Poor	Excellent	Excellent	Fair	Good to Excellent
	Heat Aging at 212°F	Good	Good	Excellent	Excellent	Good	Good	Good	Fair to Good	Excellent	Excellent	Excellent
	Flame Resistance	Poor	Poor	Poor	Poor	Good	Poor to Fair	Poor	Poor to Fair	Fair to Good	Good	Excellent
	Temperature: Maximum, (°F)	200	275	325	350	250	250	200	230	550	325	400
	Low Temperature, Stiffening, (°F)	-20 to -50	0 to 50	10 to 40	-20 to -50	+10 to -20	+30 to -20	-10 to -45	-10 to -50	-60 to -160	-30 to -50	+20 to -30
	Low Temperature, Brittle Point, (°F)	-80	-80	-80	-90	-45 to -180	-65	-60	-60	-90 to -180	-60	+10 to -60
Resistance Properties	Weather	Fair	Fair	Excellent	Excellent	Excellent	Good	Excellent	Excellent	Excellent	Excellent	Excellent
	Oxidation	Good	Good	Excellent	Good	Good	Fair to Good	Excellent	Excellent	Excellent	Excellent	Excellent
	Ozone	Poor	Poor	Excellent	Excellent	Excellent	Poor	Excellent	Excellent	Excellent	Excellent	Excellent
	Radiation	Fair to Good	Good	Poor	Poor	Fair to Good	Fair to Good	Fair to Good	Good	Fair to Excellent	Fair to Good	Fair to Good
	Water	Excellent	Excellent	Excellent	Good to Excellent	Good	Excellent	Good	Good	Good	Good	Good
	Acid	Fair to Good	Fair to Good	Excellent	Good to Excellent	Good	Good	Fair	Poor to Fair	Poor to Good	Excellent	Good to Excellent
	Alkali	Fair to Good	Fair to Good	Excellent	Good to Excellent	Good	Fair to Good	Good	Poor to Fair	Poor to Fair	Excellent	Poor to Good
	Gasoline, Kerosene, etc. (Aliphatic Hydrocarbons)	Poor	Poor	Poor	Poor	Good	Excellent	Excellent	Excellent	Poor to Fair	Fair	Excellent
	Benzol, Toluol, etc. (Aromatic Hydrocarbons)	Poor	Poor	Fair to Good	Fair	Poor	Good	Excellent	Poor to Fair	Poor	Poor to Fair	Excellent
	Degreaser Solvents (Halogenated Hydrocarbons)	Poor	Poor	Poor	Poor	Poor	Poor	Fair to Good	Fair to Good	Poor to Good	Poor to Fair	Good
	Alcohol	Good	Fair	Excellent	Poor	Fair	Excellent	Good	Good	Good	Good	Excellent
	Synthetic Lubricants (Diester)	Poor to Fair	Poor	Fair	Poor to Fair	Poor	Fair to Good	Good	Poor	Poor to Fair	Poor	Fair to Good
	Hydraulic Fluids, Silicates	Poor	Poor to Fair	Fair	Fair to Good	Good	Fair	Poor to Fair	Poor to Good	Poor	Good	Good
	Hydraulic Fluids, Phosphates	Poor to Fair	Poor	Good	Good to Excellent	Poor	Poor	Poor to Fair	Poor to Fair	Good	Poor to Fair	Poor
Subjective Properties	Taste	Fair to Good	Fair to Good	Fair to Good	Good	Fair to Good	Fair to Good	Poor to Fair	Good	Good	Fair to Good	Fair to Good
	Odor	Fair to Good	Good	Good	Good	Fair to Good	Good	Poor	Good	Good	Good	Good
	Nonstaining	Poor to Good	Poor to Good	Good	Good	Good to Excellent	Poor to Good	Poor to Fair	Good	Excellent	Excellent	Poor to Good
	Bonding to Rigid Materials	Excellent	Excellent	Fair to Excellent	Poor	Good to Excellent	Good to Excellent	Fair to Good	Excellent	Fair to Excellent	Fair to Good	Poor to Good



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