

Rubber Molding Material Selection Chart

* All recommendations in this table should be verified and tested under your specific operating conditions prior to final specification.
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Legend

Excellent ● Very Good ◐ Good ○ Fair ◑ Poor ●

Chemical Name	Nitrile	Ethylene Propylene	Polysiloxane	Polychloroprene	Polyisoprene	Styrene Butadiene	Fluorocarbon	Hydrogenated Nitrile	Isobutylene Isoprene	Fluorosilicone	Urethane
Common Name	Buna-N	EPDM, EP, EPT, EPR	Silicone, VMQ, PVMQ	Neoprene	Natural Rubber	SBR	Viton®, Fluorel®	HNBR	Butyl	Fluorosilicone	Urethane, Polyurethane
ASTM D 1418	NBR	EPDM	VMQ	CR	NR	SBR	FKM	HNBR	IIR	FVMQ	AU
MIL-STD-1417	SB	RS	TA	SC	RN	RS	TB		RS		SB
ISO/DIN 1629	NBR	EPDM	VMQ	CR	NR	SBR	FPM	HNBR	IIR	FVMQ	AU
ASTM D2000 / SAE J 2000	BF, BG, BK, CH	BA, CA, DA	FC, FE, GE	BC, BE	AA	AA, BA	HK	DH	AA, BA	FK	BG
Temperature Range °F	-40°F to 250°F	-60°F to 300°F	-100°F to 450°F	-50°F to 250°F	-60°F to 175°F	-50°F to 225°F	-25°F to 400°F	-30°F to 330°F	-60°F to 250°F	-100°F to 395°F	-30°F to 175°F
Temperature Range °C	-40°C to 121°C	-51°C to 149°C	-73°C to 232°C	-46°C to 121°C	-51°C to 79°C	-46°C to 107°C	-32°C to 204°C	-34°C to 166°C	-51°C to 121°C	-73°C to 202°C	-34°C to 79°C
Durometer Range (Shore A)	20-95	30-90	30-90	20-95	20-100	30-100	50-95	50-90	40-90	50-80	35-100
Tensile Strength (PSI)	200-3000	500-3000	200-1500	500-3000	500-3500	500-3000	1450	1500-3500	500-3000	500-800	500-6000
Maximum Elongation (%)	600	600	700	600	700	600	300	350	850	300	750
Economical Price	●	◐	○	◐	◐	●	○	◑	○	◑	○
Tear Resistance	○	◑	●	○	●	○	○	◐	○	●	●
Metal Adhesion	◐	◑	○	◐	●	●	○	◐	○	◑	○
Compression Set	○	○	◑	◐	●	○	●	◐	○	◐	○
Rebound	○	○	○	●	●	○	◐	○	◑	◐	○
Abrasion Resistance	●	○	◑	●	●	●	◐	◐	◑	●	●
Solvent Resistance	◐	●	●	◑	●	●	●	●	◑	◑	●
Oil/Grease Resistance	◐	●	◑	●	●	●	●	●	◑	○	◐
Weather/Sunlight Resistance	◑	●	●	●	●	●	●	◐	●	●	●
Ozone Resistance	◑	●	●	◐	●	●	●	◐	●	●	●
Electrical Resistance	○	◐	●	◑	◐	○	○	○	●	●	○
Permeability to Gases	◐	◐	●	○	◑	○	○	○	●	●	○
Water Resistance	○	●	◐	◐	○	◐	●	●	●	○	○
Heat Resistance	○	●	●	○	○	○	●	◐	○	●	○
Flame Resistance	●	●	○	●	●	●	◐	●	●	◐	◑
Low Temperature Resistance	◐	●	●	◑	◐	◑	◐	◐	●	●	◐
Advantages	Strong mechanical properties and wear resistance.	Economical price and excellent for outdoor use with exposure to the elements, high temperature steam.	Large functional temperature range, highly flexible, excellent electrical resistance properties.	Excellent abrasion resistance, adequate flame resistance with strong mechanical properties over a wide temperature range.	The strong dynamic properties of natural rubber make it ideal for use cases requiring high tensile strength, low compression set, strong rebound, with tear, and abrasion resistance. Natural rubber is commonly specified when adherence to a metal component is critical.	Very durable material that is resistant to emulsifying in damp conditions.	Excellent heat and chemical resistance allow for use in high performance to reduce risk and reduce failure.	Outstanding heat and oil resistance. Better wear and abrasion resistance over standard Nitrile. Larger temperature range than NBR.	Butyl should be used when the gases in a system or container cannot be allowed to pass through the rubber molded part.	Fluorosilicone combines the temperature range advantages of silicone with the resistance to oil, fuel, and solvents of fluorocarbons.	Strong resistance to abrasion and capable of sustaining repeated high load cycles without failure.
Generally Resistant To	Oils, Fats, Greases, Hydraulic Fluids, Chemicals, Solvents	Superb against weather, ozone, water, and heat aging	High temperatures, weather, ozone, and electrical	Abrasion, weather, lubricating oils, and flame	Abrasion, tear, alcohols, ketones, water, and electrical conductivity	Abrasion, water, wet or dry organic acids	Gasoline, oil, fuels, acids, UV light, ozone	Oil, heat, fuel, weather, and ozone.	Gas permeation, weather, ozone, water, and electrical	High/low temperatures, fuel, oil, solvents	Oil and grease, petroleum based products, weather