

Material Properties Chart

MARTIN'S
RUBBER COMPANY

Since 1865

Common Name	Natural	SBR	Butyl	Nitrile	Neoprene(R)	EPDM	Silicone	Viton(R)	Polyurethane	Hypalon	Epichlorohydrin	HNBR	Fluorosilicone
Chemical Name	Isoprene	Styrene Butadiene Copolymer	Isobutene / Isoprene	Acrylonitrile Butadiene Copolymer	Chloroprene	Terpolymer of Ethylene Propylene Diene Monomer	Polysiloxane	Fluorinated Hydrocarbon	Polyester	Chlorosulphinated Polyethylene	Organochloride Epoxide	Hydrogenated Nitrile	
Abbreviation	NR	SBR	IIR	NBR	CR	EPDM	Q	FPM	AU	CSPE	ECH	HNBR	FVMQ
Physical Properties- Tensile Strength (PSI)	3000	2000	2000	2000	3000	3000	1500	2000	4000	3000	3000	3000	1500
Tensile Strength (kPa)	20k	14k	14k	14k	20k	20k	10k	14k	27k	20k	20k	20k	10k
Hardness (IRHD)	30-90	40-90	40-75	40-95	40-95	40-90	30-85	55-95	35-99	40-95	40-95	50-95	40-80
Specific Gravity (base material)	0.93	0.94	0.92	1	1.23	0.86	1.1/1.6	1.85	1.06	1.12/1.28	1.27/1.36	0.98	1.3-1.8
Tear Resistance	Very Good	Fair	Good	Fair	Good	Fair to Good	Poor	Fair	Excellent	Excellent	Fair	Good	Fair
Abraision Resistance	Excellent	VG to Excellent	Good	Excellent	Good	Good	Poor	Good	Outstanding	Excellent	Good	Excellent	Good
Compression Set	Good	Good	Fair	Good	Fair to Good	Good	Fair	Fair to Good	Fair	Fair	Fair	Good	Fair
Rebound – Cold	Excellent	Good	Poor	Good	Very Good	Very Good	Excellent	Fair to Good	Good (3)	Good	Poor to Fair	Good	Excellent
Rebound – Hot	Excellent	Good	Very Good	Good	Very Good	Very Good	Excellent	Good (2)	Good	Good	Poor to Fair	Very Good	Good
Dielectric Strength	Excellent	Excellent	Excellent	Poor	Good	Excellent	Good	Good	Excellent	Excellent	Good	Fair	Good
Electrical Insulation	VG to Excellent	VG to Excellent	VG to Excellent	Poor	Fair to Good	Excellent	Excellent	Fair to Good	Fair to Good	Good	Fair	Fair	Excellent
Gas Permeability	Fairly Low	Fairly Low	Very Low	Low	Low	Fairly Low	Fairly Low	Very Low	Fairly Low	Fairly Low	Fairly Low	Fairly Low	Fairly Low
Adhesive Properties	Good	Good	Good	Good	Good	Poor	Fair	Good	Fair	Fair	Fair	Good	Fair
Water Absorbition	Very Good	Very Good	Very Good	Good	Good	VG to Excellent	Excellent	Very Good	Good (1)	Very Good	Good	Very Good	Good
Oxidation	Good	Fair	Excellent	Good	VG to Excellent	Excellent	Excellent	Outstanding	Excellent	Excellent	Good	Good	Excellent
Ozone	Poor	Poor	Excellent	Fair	VG to Excellent	Outstanding	Excellent	Outstanding	Excellent	Outstanding	Very Good	Good	Excellent
Sunlight Ageing	Poor	Poor	Very Good	Poor	Very Good	Outstanding	Excellent	Outstanding	Good	Outstanding	Good	Very Good	Very Good
Heat Ageing (continuous service limits °C)	+85/-40	+90/-40	+120/-20	+115/-20	+95/-20	+145/-40	+305/-100	+205/-20	+85/-40	+120/-20	+120/-40	+150/-25	+200/-100
Heat	Good	Fair to Good	Very Good	Good	Very Good	Excellent	Outstanding	Outstanding	Good	Excellent	Very Good	Excellent	Good
Cold	Excellent	Very Good	Good	Fair to Good	Good	Excellent	Outstanding	Good	Excellent	Good	Fair to Good	Excellent	Excellent

These ratings are only a guide to the general suitability of each Polymer. Properties can be modified by specific formulation. For further information please contact us, or refer to BS:6716 – Guide to Properties and Types of Rubber.