

C.C.Components Pty Ltd

Properties of Rubber Compounds

This table is provided as a general guide to the properties of compounds containing natural & synthetic rubbers.

Most compounds used in the manufacture of sheet rubber contain about 60% by weight of rubber, the balance is made up of chemicals, each contributing something to the physical properties of the finished product, or as an aid in processing. The selection of these compounds is very much a matter of compromise since the full achievement of one property is usually at the expense of another.

Common Name	ASTM Designations	Composition	General Properties
Natural	NR	Isoprene, natural	Excellent physical properties including abrasion & low temperature resistance. Poor resistance to petroleum based fluids.
Neoprene	CR	Chloroprene	Good weather resistance. Flame retarding. Moderate resistance to petroleum based fluids. Good physical properties.
Nitrile	NBR	Acrylonitrile butadiene	Excellent resistance to petroleum based fluids. Moderate resistance to aromatics. Good physical properties.
EPDB	EPDM	Ethylene-propylenediene - terpolymer	Excellent ozone, chemical & aging characteristics. Poor resistance to petroleum based fluids.
Butyl	IIR	Isobutene-isoprene	Very good weathering resistance. Low permeability to air. Good abrasion & heat resistance. Poor resistance to petroleum based fluids.
Chlorobutyl	CIIR	Chloro-isobuteneisoprene	Very good weathering resistance. Low permeability to air. Good physical properties. Poor resistance to petroleum based fluids
SBR	SBR	Styrene-butadiene	Good physical properties including abrasion resistance. Poor resistance to petroleum based fluids.
Hypalon	CSM	Chloro-sulfonyl-polyethylene	Excellent ozone, weathering & acid resistance. Good abrasion & heat resistance. Poor resistance to petroleum based fluids.
Silicon	VMQ	Silicone Rubber	Excellent heat, ozone, weathering resistance. Good physical properties.
Viton	KFM	Fluoro-elastomer	Excellent chemical & heat resistance. Outstanding ozone, oxidation & weathering resistance.

Rubber Sheet - Selection Criteria

This is a general guide only. If in any doubt please **consult**

Application	Nat/SBR	Neoprene	Nitrile	EPDM	Butyl	Hypalon	Silicon	Viton
Petrol	Poor	Poor	Good	Poor	Poor	Poor	Poor	Excellent
Lubricating Oils	Poor	Fair	Good	Poor	Poor	Fair	Good	Excellent
Acid	Fair	Fair	Good	Excellent	Excellent	Excellent	Fair	Good
Alkali	Fair	Fair	Fair	Good	Excellent	Excellent	Fair	Fair
Hydraulic Fluid	Poor	Poor	Poor	Fair	Fair	Fair	Fair	Fair
Abrasion Resistance	Excellent	Good	Good	Good	Good	Good	Fair	Good
Tear Strength	Good	Good	Good	Fair	Good	Fair	Poor	Good
Impact Resistance	Excellent	Good	Fair	Good	Good	Good	Fair	Fair
Resilience	Excellent	Good	Good	Good	Fair	Good	Poor	Fair
Impermeable to Gas	Fair	Good	Good	Good	Excellent	Excellent	Poor	Excellent
Compression Set	Good	Good	Good	Good	Fair	Fair	Good	Good
Max Operating Temperature ° C.	100	120	115	130	140	150	230	300

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