Application Data

Elastomer Chart

The chart below shows the general characteristics of some of the common rubber compounds. Elastomers are mixed with various chemicals to provide a wide range of physical properties for specific service needs.

ASTM DESIGNATION	COMMON NAME	COMPOSITION	GENERAL PROPERTIES
CR	Neoprene	Chloroprene	•Good abrasion •Good weathering resistance •Good oil resistance •Flame retarding
NBR	Nitrile (Buna-N)	Acrylonitrile-butadiene	•Excellent oil resistance •Moderate resistance to aromatics
IIR	Butyl	Isobutylene-isoprene	•Excellent ozone resistance •Good resistance to fire resistant fluids •Good heat resistance •Low permeability •Poor resistance to petroleum fluids
CIIR	Chlorinated Butyl	Chloro-isobutylene isoprene	•Same as Butyl
SBR	SBR	Styrene-butadiene	•Good abrasion resistance •Poor resistance to petroleum fluids
EPDM	EPDM	Ethylene-propylene diene terpolymer	•Excellent ozone resistance •Good chemical resistance •Good temperature resistance •Poor resistance to petroleum fluids
XLPE	Cross-Linked Polyethylene	Polyethylene & cross linking agents	•Excellent chemical resistance
PA	Nylon	Polyamide	•Good abrasion resistance •Good chemical resistance •Low coefficient of friction
CSM	Hypalon	Chloro-sulfonated Polyethylene	•Excellent ozone resistance •Good abrasion resistance •Good heat resistance •Fair petroleum qualities
NR	Natural Rubber	Polyisoprene	•Excellent abrasion resistance •Acid resistance •Not oil resistant
V-NBR	Vinyl Nitrile	PVC/NBR	•Good ozone resistance •Good resistance to animal fats & oils •Good petroleum resistance
UHMWPE	Ultra-high molecular weight polyethylene	Polyethylene	•Excellent chemical resistance •Moderate heat resistance •FDA-accepted material
CM	CPE	Chlorinated Polyethylene	•Excellent ozone resistance •Excellent weathering resistance •Good abrasion resistance •Good heat resistance •Good resistance to petroleum oils
XNBR	Carboxylated Nitrile	Carboxylated Acrylonitrile-butadiene	•Excellent abrasion resistance •Excellent oil resistance •Excellent weather resistance
PTFE	Teflon	Polytetrafluoroethylene	•Excellent temperature resistance •Excellent chemical resistance •FDA accepted material •Low coefficient of friction for high flow rates and easy cleaning •Excellent resistance to thermocycling
PVC	PVC	Polyvinylchloride	•Resistant to many chemicals •Good Flexibility
FEP	Teflon	Fluorinated Ethylene Propylene	•Excellent temperature resistance •Excellent chemical resistance •FDA accepted material •Low coefficient of friction for high flow rates and easy cleaning •Excellent resistance to thermocycling