This Table Provides Us with a Guide to the Materials for
the O-Rings and Seals Most Suited to our Motor Cars

O-Ring Material Reference Guide

Material	Recomended Use	Not Recomended For	Mechanical Properties
Buna-N (Nitrile) Standard: 70 Durometer Black Temperature Range: -35ºF to 250ºF Least Expensive / Readily Available	Silicone Greases / Oils Water Petroleum Oils / Fuels Ethylene Glycol Fluids	Ketones (MEK) Halogenated Hydrocarbons Auto / Aircraft Brake Fluids Strong Acids Sunlight, Ozone, Weathering	Good Wear Resistance Good Compression Set Resistance Good Short-Term Resilience Good Permeation Resistance
Viton® (Fluorocarbon Type A) Standard: 75 Durometer Black Temperature Range: -15ºF to 400ºF	Vacuum Most Acids / Chemicals Halogenated Hydrocarbons Di-Ester Lubricants Petroleum Oils / Fuels Silicone Oils / Greases	Ketones (MEK) Auto / Aircraft Brake Fluids Amines (Ammonia) Acetone, Skydrol, Ethyl Accetate Hot Water and Steam Low Molecular Esters and Ethers	Good Wear Resistance Excellent Comp. Set Resistance Moderate Short-Term Resilience Excellent Permeation Resistance
Silicone Standard: 70 Durometer Orange Temperature Range: -65ºF to 450ºF	Dry Heat Wide Temperature Range Sunlight, Ozone, Weathering Odorless and Non-Toxic	Ketones (MEK) Acids Silicone Oils Brake Fluids	Poor Wear Resistance Excellent Comp. Set Resistance Poor Short-Term Resilience Excellent Permeation Resistance
EPDM (Ethylene Propylene) Standard: 70 Durometer Black Temperature Range: -60ºF to 250ºF	Sunlight, Ozone, Weathering Hot Water and Steam Auto / Aircraft Brake Fluids Some Acids ans Bases Ketones ans Alcohols Plumbing	Petroleum Oils Fuels	Good Wear Resistance Good Comp. Set Resistance Moderate Short-Term Resilience Good Permeation Resistance
Material	**Recomended Use**	**Not Recomended For**	**Mechanical Properties**
Chemraz® / Kalrez® / Simriz® (Perfluoroelastomer) Various Compounds Designed for Specific Applications Temperature Range: -10ºF to 615ºF	High Temperature Resistance Excellent Chemical Resistance Low Out Gassing Chlorine Wet/Dry Petroleum Oil Chlorinated Hydrocarbons	Molten metals Gaseous Alkali Metals Halogenated Freons/Fluids Uranium Hexafluoride	Good Wear Resistance Good Comp. Set Resistance Moderate Short-Term Resilience Good Permeation Resistance
Neoprene® (Chloroprene) Standard: 70 Durometer Black Temperature Range: -35ºF to 250ºF	Refrigerants (Freon) Ammonia Some Petrolium Oils Dilute Acids Silicone ester Lubricants	Ketones (MEK) Gasoline Auto / Aircraft Brake Fluids	Good Wear Resistance Moderate Comp. Set Resistance Moderate Short-Term Resilience Good Permeation Resistance

Urethane Standard: 90 Durometer Translucent Temperature Range: -65ºF to 200ºF	Drive Belts Some Petroleum Oils Some Hydrocarbon Fuels Oxygen / Ozone	Ketones (MEK) Acids Auto / Aircraft Brake Fluids Chlorinated Hydrocarbons Water	Excelent Wear Resistance Poor Comp. Set Resistance Excelent Short-Term Resilience
Fluorosilicone Standard: 70 Durometer Blue Temperature Range: -80ºF to 450ºF	Jet Fuel Dry Heat Wide Temperature Range Some Petroleum Oils Clorinated Solvents	Ketones (MEK) Phosphate Esters Some Acids Auto / Aircraft Brake Fluids Amines (Ammonia)	Poor Wear Resistance ModerateComp. Set Resistance Moderate Short-Term Resilience Poor Permeation Resistance
Teflon Encapsulated O-Ring Covered with Teflon Tube Usually Silicone or Viton®	Depends on O-Ring Core Chemical Resistance Heat Resistance	Depends on O-Ring Core	Good Wear Resistance Good Short-Term Resilience Good Permeation Resistance
Teflon® Standard: Non-Elastic White Temperature Range: -250ºF to 450ºF	Chemical Resistance Fuel Resistance Low Coefficient of Friction	Non-Elastic	Good Wear Resistance Low Coefficient of Friction
Material	**Recomended Use**	**Not Recomended For**	**Mechanical Properties**

RHT August 2006