

POLYMER SELECTION CRITERIA

APPLICATION		NR/SBR	Neoprene	Nitrile	EPDM	Butyl	Hypalon®	Silicone	Viton®
Petrol		Poor	Poor	Good	Poor	Poor	Poor	Poor	Excellent
Lubricating Oils		Poor	Fair	Good	Poor	Poor	Fair	Good	Excellent
Acids		Fair	Fair	Good	Excellent	Excellent	Excellent	Fair	Good
Alkalies		Fair	Fair	Fair	Good	Excellent	Excellent	Fair	Fair
Hydraulic	Phosphates	Poor	Poor	Poor	Good	Good	Fair	Good	Poor
Fluid	Silicates	Poor	Good	Good	Fair	Fair	Good	Poor	Good
Abrasion Resistance		Excellent	Good	Good	Good	Good	Good	Fair	Good
Tear Strength		Good	Good	Good	Fair	Good	Fair	Poor	Fair
Impact Resistance		Excellent	Good	Fair	Good	Good	Good	Fair	Fair
Resilience		Excellent	Good	Good	Good	Fair	Good	Poor	Fair
Impermeability to Gases		Fair	Good	Good	Good	Excellent	Excellent	Poor	Excellent
Compression Set		Good	Good	Good	Fair	Fair	Fair	Good	Good

Note: This resistance chart is offered as a general guide, including the suitability of various elastomers for service in these chemicals and fluids. The ratings are mainly based on published literature of various polymer suppliers, rubber manufacturers, and in some cases, the opinion of experienced compounders. We recommend self-testing polymers as we cannot guarantee the accuracy of this chart nor assume responsibility for use thereof. Many factors must be considered in using a rubber part in service. The most important as we see them are:

- 1) The temperature of service: Higher temperatures increase the affect of all chemicals on polymers. The increase varies with the polymer and the chemical. A compound quite suitable at room temperature might fail at elevated temperatures.
- 2) Conditions of service: A compound that swells badly might still function as a static seal yet fail in any dynamic application.
- 3) The grade of the polymer: Many types of polymers are available in different grades that vary greatly in chemical resistance.
- 4) The compound itself: Compounds designed for their outstanding properties may be poorer in performance in a chemical than one designed especially for fluid resistance.
- 5) The durometer: In general, the harder the compound the better the resistance.