

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 |
| Alkalis | | 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.