## O Ring Material Guide

| Material           | Hardness         | Temp        | Recommended for              | Not Recommended for             |
|--------------------|------------------|-------------|------------------------------|---------------------------------|
|                    | range<br>Shore A | Range<br>⁰C |                              |                                 |
| Nitrile -Butadiene | 55-90            | -35 to 100  | Petroleum base oils and      | Phosphate ester base            |
| NBR                |                  |             | fluids, mineral oils,        | hydraulic fluids, automotive    |
|                    |                  |             | ethylene glycol base fluids, | brake fluids, strong acids,     |
|                    |                  |             | silicone and di-ester base   | ozone, freons, ketones,         |
|                    |                  |             | lubricants, air, water under | halogenated hydrocarbons,       |
|                    |                  |             | 150°F, and natural gas.      | and methanol.                   |
| Fluorocarbon FKM   | 65 -90           | -30 to 200  | Petroleum base oils and      | Ketones, skydrol fluids, amines |
|                    |                  |             | fluids, some phosphate       | (VDMH), anhydrous               |
|                    |                  |             | ester base fluids, silicone  | ammonia, low molecular          |
|                    |                  |             | and silicate ester base      | weight esters and ethers,       |
|                    |                  |             | lubricants, di-ester base    | and hot hydrofluoric            |
|                    |                  |             | lubricants, acids and        | or chlorosulfonic acids.        |
|                    |                  |             | halogenated hydrocarbons.    |                                 |
| Ethylene-          | 65-90            | -50 to 120  | Phosphate ester base         | Petroleum base oils             |
| Propylene EPDM     |                  |             | hydraulic fluids, hot water, | and di-ester base               |
|                    |                  |             | steam to 400°F, silicone     | lubricants.                     |
|                    |                  |             | oils and greases, dilute     |                                 |
|                    |                  |             | acids and alkalis, ketones,  |                                 |
|                    |                  |             | alcohols and automotive      |                                 |
|                    |                  |             | brake fluids.                |                                 |
| SILICONE Si        | 65-90            | -50 to 200  | Dry heat (air to 400°F) and  | Most petroleum fluids,          |
|                    |                  |             | high aniline point oils.     | ketones, water and steam.       |
| NEOPRENE CR        | 65-90            | -40 to 100  | Refrigerants (freons,        | Phosphate ester fluids and      |
|                    |                  |             | ammonia), high aniline       | ketones.                        |
|                    |                  |             | point petroleum oils, mild   |                                 |
|                    |                  |             | acids, and silicate ester    |                                 |
|                    |                  |             | lubricants.                  |                                 |