

### Resistance Properties Of Various Elastomers

|                                  | Natural rubber | Buna-S | Buna-N | Ethylene Propylene | Butyl | Neoprene | Urethane | Thiokol | Silicone | Fluoro-silicone | Fluoro-elastomer (Viton) | Poly-acrylate | Kalrez |
|----------------------------------|----------------|--------|--------|--------------------|-------|----------|----------|---------|----------|-----------------|--------------------------|---------------|--------|
| ASTM code                        | NR             | SBR    | NBR    | EP                 | 11R   | CR       | AU<br>EU | -       | Si       | FSi             | FPM                      | ACM           | -      |
| Hardness (Shore A)               | 30-90          | 40-90  | 40-95  | 40-80              | 20-80 | 20-90    | 50-90    | 50-80   | 10-90    | 40-80           | 60-90                    | 50-90         | 80-90  |
| Tensile Strength (p.s.i)         | 3000           | 3000   | 2500   | 2500               | 2000  | 3000     | 5000     | 1000    | 1400     | 900             | 2000                     | 2000          | 2000   |
| Tearing Strength                 | E              | VG     | G      | G                  | VG    | VG       | E        | R       | N        | N               | G                        | G             | G      |
| Wear Resistance                  | E              | E      | G      | G                  | G     | G        | VG       | R       | N        | N               | G                        | VG            | G      |
| Fire-proof Hyd. Fluids           | N              | N      | N      | VG                 | VG    | R        | N        | R       | G        | VG              | R-N                      | N             | E      |
| Lubricating Oils                 | N              | N      | G      | N                  | N     | G        | VG       | E       | G        | E               | E                        | VG            | E      |
| Fuel Oils                        | N              | N      | G      | N                  | N     | R        | VG       | E       | R        | E               | E                        | VG            | E      |
| Hydraulic Oils                   | N              | N      | E      | N                  | N     | G        | VG       | E       | G        | E               | E                        | U             | E      |
| Vegetable Oils                   | N              | R      | E      | R                  | E     | G        | VG       | R       | G        | E               | E                        | U             | E      |
| Animal Fats                      | N              | R      | E      | R                  | E     | G        | VG       | R       | G        | E               | E                        | U             | E      |
| Petrol (Normal)                  | N              | N      | VG     | N                  | N     | R        | VG       | E       | R        | E               | E                        | VG            | E      |
| Petrol (High Octane)             | N              | N      | G      | N                  | N     | N        | VG       | E       | N        | E               | E                        | G             | E      |
| Kerosene                         | N              | N      | VG     | N                  | N     | R        | VG       | E       | R        | E               | E                        | VG            | E      |
| Aromatic Hydrocarbons            | N              | N      | R      | N                  | N     | N        | G        | E       | N        | E               | E                        | R             | E      |
| Aliphatic Hydrocarbons           | N              | N      | VG     | N                  | N     | G        | VG       | E       | R        | E               | E                        | VG            | E      |
| Water (under 80 c)               | G              | VG     | VG     | E                  | E     | R        | R-N      | R       | E        | E               | E                        | N             | E      |
| Water (above 80 c)               | N              | R      | R      | E                  | G     | N        | N        | N       | E        | VG              | G                        | N             | E      |
| Alcohols                         | G              | G      | VG     | E                  | E     | E        | R        | R       | E        | E               | E                        | N             | E      |
| Ketones                          | N              | N      | N      | G                  | VG    | N        | N        | VG      | G        | N               | N                        | N             | E      |
| Conc. Acids                      | N              | N      | N      | R                  | G     | N        | N        | N       | R        | G               | VG                       | N             | E      |
| Diluted Acids                    | R              | R      | R      | G                  | E     | G        | N        | R       | G        | VG              | E                        | N             | E      |
| Alkalis                          | G              | G      | R      | VG                 | E     | G        | N        | N       | G        | R               | G                        | N             | E      |
| Chlorinated Solvents             | N              | N      | R      | N                  | N     | N        | R        | VG      | N        | E               | E                        | R             | E      |
| Ozone & Sunlight                 | R              | R      | R      | E                  | E     | VG       | VG       | VG      | E        | E               | E                        | VG            | E      |
| Max. temp. at continuous service | 70 C           | 05 C   | 105 C  | 135 C              | 120 C | 105 C    | 70 C     | 65 C    | 230 C    | 205 C           | 230 C                    | 175 C         | 288 C  |
| Electrical Properties            | E              | VG     | N      | E                  | E     | VG       | G        | R       | E        | E               | E                        | N             | E      |
| Compression Set                  | VG             | VG     | VG     | G                  | G     | VG       | N        | N       | E        | VG              | R                        | G             | G      |
| Flame Hesistant                  | No             | No     | No     | No                 | No    | Yes      | No       | No      | No       | No              | Yes                      | No            | Yes    |

E : Excellent

N : Not Recommended

R : Reasonable

VG : Very Good