

## **Compound Information (all data for reference only)**

The enumerated base polymers are the most commonly used in the seal industry, but there are other materials which have been developed for special services. Contact us for recommendations if you have a specific inquiry.

### **NITRILE ( NBR or BUNA N )**

Compounds of Buna N (Acrylonitrile - Butadiene ) are the workhorse of the seal industry. They are excellent for use in petroleum based oils and hydraulic fluids. They are also used in general purpose applications of air, water, silicone fluids, fuel oils and gasoline.

Standard temperature range from -40 degrees F to + 275 degrees F., with lower end capabilities down to 45 degrees F.

### **FLUOROCARBON ( FKM )**

Popular trade names for Fluorocarbon compounds are Viton\* and Fluorel\*.

These compounds are excellent for petroleum oils and fluids, solvents, fuels, gasoline, and many acids. They are also good for vacuum service because of its low gas permeability. Low compression set and high temperature resistance enhance their sealing abilities.

Temperature range -20 degrees F to +450 degrees F. Low temperature grades are available.

\* Viton Registered trademark of Dow-Dupont Elastomers

\* Fluorel Registered trademark of 3M Co.

### **ETHYLENE PROPYLENE ( EPDM )**

This material is not to be used for petroleum based fluids. It is recommended for use in water and hot water, automotive brake fluid, silicone fluids and phosphate ester fire resistant aircraft fluids.

Temperature range is - 65 degrees F to + 300 degrees F.

### **NEOPRENE ( CR CHLOROPRENE )**

Developed in 1932 by Dupont Co., neoprene was one of the earliest synthetic rubbers. This material has good ozone and weather resistance. It is also used in refrigeration applications involving freons. Neoprene can be utilized with high aniline oils and has fair petroleum oil resistance.

Temperature range is - 65 degrees F to + 250 degrees F.

### **POLYURETHANE ( AU-KU )**

This compound has the tensile strength of natural rubber and exhibits high tear strength and abrasion resistance. It is excellent for mechanical applications such as piston/rod seals, drive belts, solid tires, drive wheels where toughness is the primary consideration. Polyurethane is suitable for use in petroleum base fluids.

Temperature range - 65 degrees F to + 212 degrees F.

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## **Compound Information Page Two (This data for reference only)**

### **SILICONE ( VMQ )**

Recommended for wide temperature range applications, silicone is excellent for high temperature dry heat applications. Silicone rings can be used as masking rings in plasma spray operations which involve very high temperatures. Like fluorosilicone they are not recommended as dynamic or moving seals because of low tensile and tear strength.

Some compounds can go to - 150 degrees F or the low side. General service temperature range is - 80 degrees F to + 450 degrees F.

### **FLUROSILICONE ( FVMQ )**

Seals manufactured from these polymers show excellent resistance to petroleum based oils and fuels over a wide temperature range. This service range is - 80 degrees F to + 400 degrees F. It is not recommended for moving seals because of its low physical properties in tensile strength and abrasion resistance. Fluorosilicone compounds to Mil-R-25988 are used in aircraft fuel components.

### **AFLAS\* (TFE PROPYLENE )**

This new compound is very good for steam applications. It also is excellent for use in petroleum fluids and good resistance to brake fluids.

Temperature range - 20 degrees F. to + 400 degrees F.

\* Trade name of 3M Co.