



Tobar oil seals are offered in a complete range of metal can materials and elastomeric seal elements. To optimize sealability and seal life, the proper elastomeric selection is most critical. In selecting the proper elastomer, determine the temperature range in which the seal will be required to function. Select those elastomers which are recommended for the complete range of system temperature. From this, select those elastomers which will meet the chemical compatibility requirements of the system. Finally, select that elastomer which most economically satisfies the above requirements. To determine this, we have listed elastomers below based on their cost impact, starting with the least expensive elastomers.

Nitrile (Buna-N), Lip Code 2

Tobar's Nitrile Code 2 is 70 durometer and is the most commonly used seal element we produce. It has excellent chemical compatibilities with a wide range of petroleum based products, water, and gases. It is recommended for automatic transmission fluid Type A, engine oils, greases, both fresh and salt water, fuel oil, kerosene, Methane, and petroleum based hydraulic oils.

Nitrile is not recommended for brake fluids, Ketones, Phosphate Esters, and Trichlorethylene. The recommended operating temperature range for this material is -20° to +225° F.

Nitrile (Buna-N), Lip Code 3

This Nitrile is a 80 durometer material used where running friction and pressure may be a consideration. This compound has the same basic chemical compatibility as that of lip code 2, and an operating temperature of -40° to +225°F.

Nitrile (Buna-N), Lip Code 4

This Nitrile is a 90 durometer, high abrasion resistant elastomer used primarily for hydraulic cylinder wiper applications. This compound has the same basic chemical compatibilities as that of Lip Code 2, and has an operating temperature range of -40° to +225° F.

Polyacrylate, Lip Code PA

Polyacrylate has similar chemical compatibilities to Nitrile, with a higher temperature of -20° to +300° F. Polyacrylate is recommended for automatic transmission fluid Type A, engine oils, and many other petroleum based fluids. It has excellent compatibility with EP Lubes, and has higher resistance to oxidation and ozone than that of

Nitriles. Polyacrylate is not recommended for gasoline, water, Phosphate Esters, and Methane.

Silicone, Lip Code S

Silicone seals are recommended for the widest temperature range and are able to function successfully from -50° to +325° F. Tobar Silicone seals are compounded for compatibility with petroleum based products and are recommended for use in materials such as automatic transmission fluid Type A, engine oils, greases, water, Ethanol, Methanol, and petroleum based hydraulic fluids. Silicone is not recommended for EP Lubes, brake fluids, fuel oil and gasoline. Silicone has excellent low friction properties. It lacks the tear strength necessary for abrasive applications.

Fluoroelastomers (Viton*), Lip Code V

Fluoroelastomer seals have the widest range of chemical compatibility combined with temperature range of -40° to +400°F. It is compatible with virtually all petroleum based fluids including automatic transmission fluids, fuel oil, gasolines, Freons, brake fluids, Phosphate Esters, Ketones, and Trichlorethylene. Additionally, Viton has excellent mechanical properties and provides a superior seal element in the face of abrasive environments. Viton is not recommended for ammonia gases and Methyl Chloride.

*Viton is a trade name of the duPont Company.

Miscellaneous Elastomers

Tobar, Inc. has the capability of developing variations of our rubber compounds to meet your specific oil seal application requirements. Our specially developed compounds include HNBR's, high and low temperature Nitrile, and other variations, Fluorocarbon, Polyacrylate and Silicone compounds.

Metal Can Materials

Tobar's standard outer and inner metal cases are produced from formed cold-rolled steel. These cans may be treated and oiled to prevent corrosion during transportation and storage. Tobar will furnish cases in steel, stainless steel, or brass, depending on customer application.

Spring Materials

Tobar's standard spring material is hard drawn carbon steel wire. These springs are oiled and treated to protect them against corrosion during transportation and storage. If the seal's operating environment requires additional corrosion protection, Tobar will furnish oil seals with stainless steel springs.

