Engineering Services LP
www.engineering-experts.com

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Fax:713-481-8428
SKYPE: 281-968-0727

From the desk of G. A. Aaker, Jr., PE.

LIST OF COMMON ELASTOMERS AND BRIEF DESCRIPTIONS

Neoprene (Chloroprene) (CR) - A synthetic polymer that offers excellent resistance to weather, ozone, sunlight, natural aging and acids. (Temp. ranges: – 60ºF to +250ºF)

Nitrile-Buna-N (NBR) – An elastomer that has superior resistance to petroleum based hydraulic fluids, alkalis, acids, aliphatic and aromatic hydro carbonates, animal & vegetable oils. (Temp. ranges: – 60ºF to +250ºF)

Styrene Butadiene (SBR) – Is a synthetic Rubber which has good abrasion resistance. It is available in black or Red (fabric or smooth finish). (Temp. ranges: – 40ºF to +180ºF)

Natural Rubber (NR) (Pure Gum Amber) - Is a natural product extracted from tropical plants. It has excellent flexibility, tensile elongation & abrasion resistant. It is durometer 40. (Temp. ranges: 70ºF to +200ºF)

EPDM (Ethylene Propylene-Diene Monomer) - This polymer has superior resistance to ozone, heat and sunlight applications. It has good resistance to water and steam EPDM is available in black, white (FDA) and purple. It is sulphur and peroxide curable (Temp. ranges: – 70ºF to +350ºF)

Hypalon - Excellent resistance to chemicals, acids and alkalis. (Temp. ranges: – 70ºF to +275ºF)

Silicone Rubber (SI) - Has high temperature properties as well as excellent tensile strength, compression set and is a fungus resistance material. It has good resistance against many chemicals, including acids, oxidizing chemicals & ammonia. Available in red, grey, white(FDA) or black. (Temp. range: – 65ºF to +450ºF).

Viton: (FPM) has a powerful resistance to aggressive fuels, oils, chemicals & lubricants. It has outstanding performance in very hot and extreme corrosive environments. (Temp. ranges: – 20ºF to +500ºF)

Butyl (Isoprene)

has outstanding resistance to gases, vapors, oxygen, sunlight, ozone & heat aging and tearing. It is great for electrical insulation. (Temp. range: – 40ºF to +250ºF)

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Aflas

is a 75 durometer high temperature resistant co-polymer of tetrafluoroethylene and propylene. It is particularly suitable for the harsh environments encountered in the petroleum, sour gas (H2S), oil and gas industry. It is used in the transportation, pulp & paper, chemical and aerospace industry. (Temp. ranges: – 10ºC to +675ºF).

Urethane sheet

is considered a durable material able to resist extreme environments and abrasions. It has several advantages over conventional plastics and elastomers, increased strength, toughness & versatility. Standard thickness range from 0.031 to 1". Larger thickness can be custom made. Colors available: tan, black, red, yellow, blue, white, & natural and durometer hardness from 20 to 90

C.I.Rubber is a polyester reinforced SBR sheet . It is also available in a neoprene-nylon diaphragm sheet.

Ribbed Rubber Mattting is used as Runner mats, Anti-fatigue mats, switch board matting and link mats. Available in wide, narrow and fine ribs.

Simriz® - -10 C to +305 C Compound Specific

Simriz® oil seals are molded of an elastomer that has the broadest chemical resistance of any elastomeric material. They combine all the resilience and sealing force of an elastomer with a chemical resistance approaching that of FEP. most chemicals

Aflas® - -10 C to +204 C Compound Specific

Aflas® oil seals are made from a unique fluoroelastomer that is resistant to petroleum oils, steam, hydrogen sulfide and amine corrosion inhibitors. petroleum oils, H2S, steam

Carboxilated Nitrile

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LIST OF COMMON ELASTOMERS AND BRIEF DESCRIPTIONS

-54°C to 135°C Nitrile oil seals are made from a compound that toleratres low temperatures and has excellent abrasion resistance. petroleum oils, water

DuPont Viton®

-40 C to +204 C Compound Specific Viton® oil seals feature excellent resistance to petroleum products and solvents. They have good high temperature and low compression set characteristics. They are suited for use with wide chemical exposure situations and for hard vacuum service. petroleum oils, gasoline, transmission fluid

Fluorosilicone

-56°C to 204°C A fluorosilicone oil seal combines the good high and low temperature stability of silicone with the fuel, oil, and solvent resistance of fluorocarbon. This oil seal is resistant to petroleum oils and gasoline. petroleum oils, gasoline

Highly Saturated Nitrile (HSN, HNBR)

-26°C to 160°C Oil seals made from highly saturated nitrile have excellent resistance to petroleum oils and sour gas. Because of the extended temperature range of highly saturated nitrile, it is becoming a preferred compound in the oil patch. petroleum oils, H2S, CO2

Nitrile (Buna-N)

-40°C to 135°C

Nitrile (Low-Temp)

-65°C to 120°C Nilrile is presently the seal industry's most widely used elastomer. Nitrile oil seals combine excellent resistance to petroleum based oils and fuels, silicone greases, hydraulic fluids, water and alcohols. Nitrile has a good balance of working properties such as low compression set, high tensile strength, high abrasion resistance, combined with a low cost. petroleum oils, water, hydraulic oils

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Polyurethane

-40°C to 105°C Polyurethane is an excellent material with high abrasion resistance characteristics and high tensile strength. Polyurethane oil seals are used in high pressure hydraulic systems where highly stressed parts are subject to wear. These seals are resistant to petroleum oils and hydraulic oils. petroleum oils,

FEP

-20°C to 204°C FEP is a tough, chemically inert polymer possessing an incredible working range. Oil seals from this material are for static and slow intermittent dynamic situations. FEP is hampered by a poor memory at low temperature. most chemicals

Polyacrylate

-20°C to 170°C Polyacrylate has better heat resistance than Nitrile. It works well in high surface speed oil seals. petroleum oils, Freon

Silicone

-60°C to 200°C Silicone oil seals have a high lubricant absorbency which minimizes friction and wear. petroleum oils, some acids

Simriz®

-10 C to +305 C Compound Specific

Simriz® oil seals are molded of an elastomer that has the broadest chemical resistance of any elastomeric material. They combine all the resilience and sealing force of an elastomer with a chemical resistance approaching that of FEP most chemicals

Aflas®

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Aflas® oil seals are made from a unique fluoroelastomer that is resistant to petroleum oils, steam, hydrogen sulfide and amine corrosion inhibitors. petroleum oils, H2S, steam

Carboxilated Nitrile

-54°C to 135°C Nitrile oil seals are made from a compound that tolerates low temperatures and has excellent abrasion resistance. petroleum oils, water

DuPont Viton®

-40 C to +204 C Compound Specific Viton® oil seals feature excellent resistance to petroleum products and solvents. They have good high temperature and low compression set characteristics. They are suited for use with wide chemical exposure situations and for hard vacuum service. petroleum oils, gasoline, transmission fluid

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water and alcohols. Nitrile has a good balance of working properties such as low compression set, high tensile strength, high abrasion resistance, combined with a low cost. petroleum oils, water, hydraulic oils

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-60°C to 200°C Silicone oil seals have a high lubricant absorbency which minimizes friction and wear. petroleum oils, some acids

Data is presented for use only as a general guide and should not be the basis for design decisions. If you are designing seals and need help choosing the right material, give us a call.