

Chapter 1

Gasket Selection

Section One: Non-Metallic Gaskets

A “Soft Gasket” material is a term used when referring to a gasket material that is easily compressed under a low bolt load. This term has been used to distinguish the difference from a metallic gasket. A soft gasket material can be selected from a large variety of elastomers, compressed non-asbestos, PTFE, flexible graphite and high temperature sheet products. Soft gaskets are used in a wide range of applications such as for pipe flanges, heat exchangers, compressors and bonnet valves, to name just a few. Soft gasket material can be purchased in a variety of cut shapes or be provided in sheet or rolls.

As part of Lamons strategy to offer customers a wider range of products, we are pleased to supply the following soft gasket materials:



- Elastomeric and Fiber Sheet
- Compressed Non-Asbestos Sheet
- Matrix Biaxially Orientated PTFE Sheet
- Matrix LI20 Expanded PTFE Sheet
- Matrix LI20 PTFE Joint Sealant
- PTFE Envelope Gaskets
- Virgin / Glass-Filled / Reprocessed PTFE Sheet
- Flexible Graphite Sheet
- Mica Sheet
- Ceramic Fiber

Elastomers

An Elastomer is a polymer with the physical property of elasticity. Elastomer is a term derived from elastic polymer, which is often used interchangeably with the term rubber. Each of the monomers which link to form the polymer is usually made of carbon, hydrogen, oxygen and/or silicon. Elastomers are usually thermosets requiring a curing process involving heat and the addition of sulfur or other equivalent curatives. In addition, elastomers might also be thermoplastic.

SBR (Styrene - Butadiene)

SBR is a synthetic rubber that has excellent abrasion resistance and has good resistance to weak organic acids, alcohols, moderate chemicals and ketones. It is not good in ozone, strong acids, fats, oils, greases and most hydrocarbons. Its temperature range would be from approximately -65°F to 250°F (-54°C to 121°C).

CR-Chloroprene (Neoprene)

Chloroprene is a synthetic rubber that is suitable for use against moderate acids, alkalis and salt solutions. It has good resistance to commercial oils and fuels. It is very poor against strong oxidizing acids, aromatic and chlorinated hydrocarbons. Its temperature range would be from approximately -60°F to 250°F (-51°C to 121°C).

Buna-N/Rubber (Nitrile, NBR)

Buna-N is a synthetic rubber that has good resistance to oils and solvents, aromatic and aliphatic hydrocarbons, petroleum oils and gasoline over a wide range of temperature. It also has good resistance to caustics and salts but only fair acid resistance. It is poor in strong oxidizing agents, chlorinated hydrocarbons, ketones and esters. It is suitable over a temperature range of approximately -60°F to 250°F (-51°C to 121°C).

EPDM (Ethylene Propylene)

This synthetic material has good resistance to strong acids, alkalis, salts and chlorine solutions. It is not suitable for use in oils, solvents or aromatic hydrocarbons. Its temperature range would be between -70°F to 350°F (-57°C to 177°C).

Fluorocarbon (Viton®)

Fluorocarbon elastomer has good resistance to oils, fuel, chlorinated solvents, aliphatic and aromatic hydrocarbons and strong acids. It is not suitable for use against amines, esters, ketones or steam. Its normal temperature range would be between -15°F to 450°F (-26°C to 232°C).

Chlorosulfonated Polyethylene (Hypalon®)

Hypalon® has good acid, alkali and salt resistance. It resists weathering, sunlight, ozone, oils and commercial fuels such as diesel and kerosene. It is not good in aromatics or chlorinated hydrocarbons and has poor resistance against chromic acid and nitric acid. Its normal temperature range would be between -50°F and 275°F (-46°C and 135°C).

Natural Rubber

Natural rubber has good resistance to mild acids and alkalis, salts and chlorine solutions. It has poor resistance to oils and solvents and is not recommended for use with ozone. Its temperature range is very limited and is suitable only for use from -70°F to 200°F (-57°C to 93°C).

Silicones

Silicone rubbers have good resistance to hot air. They are unaffected by sunlight and ozone. They are not, however, suitable for use against steam, aliphatic and aromatic hydrocarbons. The temperature range would be between -65°F to 500°F (-54°C to 260°C).

Vegetable Fiber Sheet

Vegetable fiber sheet is a tough pliable gasket material manufactured by paper making techniques utilizing plant fibers and a glue-glycerine impregnation. It is widely used for sealing petroleum products, gases and a wide variety of solvents. Its maximum temperature limit is 250°F (121°C). If a more compressible material is required, a combination cork-fiber sheet is available. The cork-fiber sheet has the same maximum temperature limitation as the vegetable fiber sheet.

Note: Viton® and Hypalon® are registered trademarks of DuPont.