Grafoil

Grafoil® is compactable, resilient, and conformable, or compliant. It's chemically resistant to fluids, can withstand a lot of heat and pressure, and fits snugly to any surface to prevent leaks.

Grafoil's unique physical and chemical properties make it ideal for sealing and for high-temperature applications. The flexibility of Grafoil is due to its naturally-occurring graphite flake. The crystal structure of natural graphite consists of layered planes of carbon atoms with bonding between the planes. This structure leads to the electrical, thermal, and mechanical differences in the conventional properties of graphite and explains its natural lubricity.

Manufacturing

Grafoil's flexible composition is produced by chemically treating natural graphite flake to bond the layers and then heating them to decomposition. The result is an over eighty-fold expansion in size that produces a vermiform structure with highly active, dendritic, rough surfaces that are usually calendered into sheet form.

Application

Grafoil's sheets can be laminated together to form gaskets for many uses. The laminate can be thermally treated to decrease outgassing when used in a high-temperature application. The sheets can also be laminated with metallic and nonmetallic materials to improve handling, blowout resistance, and mechanical strength.

Grafoil is an ideal replacement for asbestos-based gaskets, with most organic and inorganic chemicals that are non-oxidizing, and also is superior to conventional elastomeric bonded gasketing. Laser routing allows for gaskets to be mechanically machined out of the non-melting, soft material of Grafoil.

Grafoil - A-Laser Precision Laser Cutting

A-Laser Precision Laser Cutting - Laser Ablation, UV and IR Lasers