

Diacom Engineered Elastomers

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Engineered elastomers are the backbone of modern diaphragm technology, selected specifically for their ability to withstand repeated flexing while maintaining a tight seal against gases or liquids. Unlike standard rubber, these materials are tailored to resist chemical degradation, extreme temperatures, and mechanical fatigue. These specially formulated elastomers are the critical component that determines the performance, lifespan, and safety of an industrial diaphragm. While standard rubber might suffice for basic seals, “engineered” elastomers are molecularly tailored to survive the mechanical and chemical stresses unique to dynamic diaphragm applications.

Diacom Corporation has developed an extensive inventory of elastomer (rubber compound) formulations to meet the demands of a wide range of rolling diaphragm applications. Our chemists have formulated each of our engineered elastomers for very specific capabilities. Some are formulated to meet extreme low temperature, some for extreme high temperature. These materials are also formulated to be compatible to different fluids and gases. Rubber is also formulated to meet certain physical properties, such as tensile strength, elongation, modulus, compression set, and tear resistance. These properties, along with operating conditions, must all be considered when selecting a rubber to be used in a rolling diaphragm.

Diacom works with all types of synthetic elastomer materials, such as Nitrile, EPDM, Polychloroprene (Neoprene®), Fluorosilicone FVMQ, Silicone VMQ, PVMQ, SBR, Fluoroelastomers FKM, Epichlorohydrin GECO, ECO, Ethelyn Acrylic (Vamac®), HNBR, FEPM, (Aflas®), (Viton Extreme®) and perfluoroelastomers FFKM. Specialty compounds have been developed that include FDA grade, chloramine resistant compounds, NSF 61 certified compounds, USP Class VI certified for medical applications, UL-157 and EN-549 approved for use in natural gas and propane. We also have an EPDM formulated for high purity hydrogen fuel contact and low out-gassing FFKMs. Diacom can produce diaphragms in all of these listed materials with fabric reinforcement to meet higher pressure application requirements.

Please contact your Diacom Team to answer any questions and discuss potential diaphragm designs using this technology.

Diaphragm Design & Manufacturing Leader

DiaCom Corporation, an ISO 9001 and AS9100 certified company, is a recognized leader in the design, manufacture and application of innovative, high performance molded diaphragm seals. DiaCom serves a variety of markets worldwide including industrial, automotive, aerospace, food processing, water control, medical instrumentation, appliances and others. DiaCom offers state-of-the-art diaphragms designed for cost effectiveness, ease of installation, conservation, durability, and high performance characteristics.

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