Services

ENGINEERING ASSISTANCE

- Design Consultation
- Value/Reverse Engineering
- Material Selection
- Computer-Aided Design
- Internal and External Lubricants
- On-Site Technical Support

OPERATIONS ASSISTANCE

- Kitting
- Sub-Assembly
- Clean Room
- Material Traceability
- PPAP Approvals
- Bin Stocking

PURCHASING ASSISTANCE

- Vendor Consolidation
- Alternative Materials
- Vendor-Managed Inventory
- Cost Reduction
- Global Sourcing
- Shipment Consolidation

CONVERSION

- Gasket Conversion
  - No Tooling or Set-up Fees
  - Foam
  - Rubber
  - Diaphragm Materials
  - Compressed Non-Asbestos
  - High Performance Materials
  - PSA
- Machined Plastics
  - PTFE Blends
  - Engineered Plastics
  - (PEEK, PPS, PA, TFM, etc.)
  - Spring-energized Seals
  - Shaft Seals
- Splicing / Vulcanizing
  - No Tooling or Set-up Fees
  - O-Rings
  - Large Diameter Seals
  - Smallest Splicing Capability 6.5” ID

INDUSTRIES

- Aerospace
- Oil & Gas
- Medical
- Fluid Power
- General Industrial
- Water & Wastewater
- Automotive
- Filtration
- HVAC
- Pool & Spa
- Agriculture
- Food & Beverage
**O-RINGS**
Common O-Rings are readily available from All Seals in many sizes and materials for multiple uses. We can even customize the size and material to precisely fit your application.

**CUSTOM MOLDED RUBBER**
When the need is for non-seal type molded parts, All Seals can help. For bumpers, caps, gaskets, bellows, handles, washers, etc., All Seals delivers the solution.

**GASKETS**
Gaskets come in all shapes and sizes. All Seals can supply gaskets in a variety of materials to cover all of your sealing needs. With either small sample runs or high production usage, we have you covered.

**MECHANICAL SEALS**
High performance is a must for mechanical seals given the conditions they operate under. An extensive selection, stocked for same day shipment is also crucial to your needs. Count on us for the best quality and selection.

**HYDRAULIC SEALS**
Rod seals, piston seals, wipers, wear guides, etc. We have the solution to meet your hydraulic needs! From standard to complex multi-faceted custom designs, we’ve got you covered.

**MACHINED PLASTICS**
We have options for applications requiring special seals or custom shapes, including designs for parts produced from machined plastics, like PTFE, PEEK, PA, POM, ACETAL, PAI, PPS, and more.

**RADIAL SHAFT SEALS**
All Seals can cover all your rotary sealing needs with our extensive range of radial seals in many different styles, sizes and materials. With years of experience in the industry, we can make recommendations for all of your rotary applications.

**RUBBER-TO-METAL BONDED**
High pressure environments at times call for more than just rubber. All Seals carries standard and metric rubber-to-metal seals, such as the NAS1523 mil-spec thread-seal line. We can also help engineer a custom bonded seal for your unique application.

**ENGINEERED COMPOUNDS**
All Seals offers a wide variety of certified and uniquely developed compounds. UL approved, FDA compliant, NSF/ANSI Standard 51 and 61 Certified*, WRAS certified and 3-A Sanitary O-Rings and custom molded rubber products are all available, just to name a few.
STANDARD COMPOUNDS

AFLAS® (TFE/P, FEPM)
OPERATING TEMPERATURE*: +15º to +600º F
COMPOSITION: Medium density copolymer of tetrafluoroethylene and propylene.

BUTYL RUBBER (IIR)
OPERATING TEMPERATURE*: -65º to +250º F
COMPOSITION: Medium density copolymer of isobutylene and a small amount of isoprene.

CARBOXYLATED NITRILE (XNBR)
OPERATING TEMPERATURE*: -10º to +250º F
COMPOSITION: Medium density terpolymer of acrylonitrile, butadiene, and a diene monomer containing carboxylic acid.

CHLOROPRENE RUBBER (CR, polychloroprene, Neoprene)
OPERATING TEMPERATURE*: -40º to +225º F
COMPOSITION: Produced from the chloroprene monomer, a combination of chlorine and butadiene. Medium density.

ETHYLENE ACRYLIC RUBBER (AEM, Vamac®)
OPERATING TEMPERATURE*: -30º to +300º F
COMPOSITION: Medium density copolymer of ethylene and methyl acrylate. May also contain a small amount of a third monomer.

ETHYLENE PROPYLENE RUBBER (EPDM, EPT, Nordel IP®, Keltan®)
OPERATING TEMPERATURE*: -60º to +250º F
COMPOSITION: Low density terpolymer of ethylene, propylene, and a small amount of a diene.

FLUOROCARBON RUBBER (FKM, FPM, Viton®, Dai-El®, Tecnoflon®)
OPERATING TEMPERATURE*: +15º to +600º F
COMPOSITION: High density copolymer of vinylidene and hexafluoropropylene.

FLUOROSILICONE RUBBER (VMQ, Silastic FS®, FSE®)
OPERATING TEMPERATURE*: -70º to +400º F
COMPOSITION: Low density fluorinated silicone rubber.

HIGHLY SATURATED NITRILE (HMBR, HSN, NBM, Therban®, Zetpol®)
OPERATING TEMPERATURE*: -25º to +300º F
COMPOSITION: Formed by hydrogenating the nitrile copolymer of butadiene and acrylonitrile. Medium density.

NATURAL RUBBER (NR, Hevea)
OPERATING TEMPERATURE*: -60º to +225º F
COMPOSITION: Coagulated, dried rubber derived from the latex of the Hevea Brasiliensis tree. Low to medium density.

NITRILE RUBBER (NBR, Buna N, Paracril®, Nipol®)
OPERATING TEMPERATURE*: -30º to +250º F
COMPOSITION: Medium density copolymer of butadiene and acrylonitrile.

PERFLOUROELASTOMER (FFKM, Kalrez®, Chemraz®)
OPERATING TEMPERATURE*: -10º to +500º F
COMPOSITION: High density copolymer of tetrafluoroethylene and a perfluorinated ether.

POLYACRYLATE RUBBER (ACM, polyacrylic rubber, Hycar®)
OPERATING TEMPERATURE*: -0º to +350º F
COMPOSITION: Medium density acrylic ester copolymer.

POLYURETHANE (AU, EU, PU, Millathane®)
OPERATING TEMPERATURE*: -40º to +180º F
COMPOSITION: Low to medium density polyurethane diisocyanate.

PTFE (Teflon®, Polyflon®)
OPERATING TEMPERATURE*: -300º to +500º F
COMPOSITION: Fluorocarbon resin generically known as polytetrafluoroethylene.

POLYURETHANE (AU, EU, PU, Millathane®)
OPERATING TEMPERATURE*: -40º to +180º F
COMPOSITION: Low to medium density polyurethane diisocyanate.

SILICONE RUBBER (VMQ, PSilastic HCR®, Elastosil®)
OPERATING TEMPERATURE*: -65º to +400º F
COMPOSITION: Medium density inorganic rubber consisting primarily of polymethylsiloxane and variations.

STYRENE-BUTADIENE RUBBER (SBR, GRS, Buna-S)
OPERATING TEMPERATURE*: -50º to +225º F
COMPOSITION: Low density copolymer of styrene and butadiene.

VITON™ ETP (Viton™ Extreme™)
OPERATING TEMPERATURE*: -10º to +400º F
COMPOSITION: High density terpolymer of ethylene, tetrafluoroethylene, and perfluoromethyl vinyl ether.

Viton™ is a trademark of The Chemours Company FC, LLC.
# MATERIAL PROPERTIES CHART

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<td>Atlantis® – FEPM</td>
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<td>High</td>
<td>15 to 400</td>
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<td>G</td>
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<td>Nitrile – NBR, XNBR</td>
<td>BF, BG, BK, CH</td>
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<td>-30 to 250</td>
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<tr>
<td>Viton™ ETP – FEPM</td>
<td>HK</td>
<td>High</td>
<td>-10 to 400</td>
<td>F</td>
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*Excellent, good, fair and poor are intended to serve as general guidelines only. Actual testing in the application environment is always recommended.*
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CERTIFICATIONS

*A wide assortment of certified compounds are available. UL and NSF Certified compounds are manufactured by RT Dygert. Please contact All Seals for more information regarding UL and NSF Certified compounds.

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