O-Rings
Custom Molded Rubber
Gaskets
Mechanical Seals
Hydraulic Seals
Machined Plastics
Radial Shaft Seals
Rubber-to-Metal Bonded
Engineered Compounds
Standard Compounds

QUALITY | VALUE | SERVICE

ALL SEALS
THE SEALING SPECIALISTS

Services

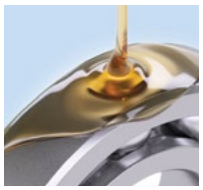
ENGINEERING ASSISTANCE

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**

Products & Materials

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 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 +400º 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 +400º F
COMPOSITION: High density copolymer of vinylidene and hexafluoropropylene.

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

HIGHLY SATURATED NITRILE (HNBR, HSN, NBM, Therban®, Zetpol®)
OPERATING TEMPERATURE*: -25o +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.

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.

MATERIAL PROPERTIES CHART

MATERIAL NAME ASTM D1418 DESIGNATION	ASTM D 2000, SAE J200 Type, Class	Relative Cost	General Temperature Range (F)	Abrasion Resistance	Acid Resistance	Base Resistance	Chemical Resistance	Cold Resistance	Dynamic Properties	Flame Resistance	Gas Impermeability	Heat Resistance	Oil Resistance	Ozone Resistance	Set Resistance	Steam Resistance	Tear Resistanceh	Tensile Strength	Water Resistance	Weather Resistance
Aflas® – FEPM	HK	High	15 to 400	G	E	E	E	P	F	E	G	E	E	E	G	G	P-F	F-G	G	E
Butyl Rubber – IIR	AA, BA	Med	-65 to 250	F-G	G	G-E	E	G	F	P	E	F	P	G-E	F-G	G	G	G	G	E
Chloroprene (Neoprene®) – CR	BC, BE	Med	-40 to 225	G-E	F-G	G-E	F-G	G	F	G-E	G	G	F-G	G-E	F	P	F-G	G	E	G
Chlorosulfonated Polyethylene (Hypalon®) – CSM	CE	Med	-20 to 250	G-E	G	G-E	E	F-G	F	G	G	G	F	E	F	F	G	F	F-G	E
Epichlorohydrin – CO, ECO	CH	Med	-55 to 275	F-G	F-G	G-E	G	G-E	G	F	G-E	F-G	E	G-E	P-F	G	G	G	G	G-E
Ethylene Acrylic (Vamac®) – AEM	EE	Med	-30 to 300	G	F	P-G	F-G	G	F	P	E	G-E	F	E	G	P	F	G	G	E
Ethylene Propylene – EPM, EPDM	AA, BA, CA, DA	Low	-60 to 250	G-E	E	E	E	G-E	G-E	P	G	G-E	P	E	G-E	E	G-E	G-E	E	E
Fluorocarbon – FKM	HK	High	-15 to 400	G	E	G	E	P	G	E	G	E	E	E	G-E	P	F	G-E	G	E
Fluorosilicone – FVMQ	FK	High	-70 to 400	P	G	G	G	E	P	E	P	E	G	E	G-E	F-G	P	P	E	E
Hydrogenated Nitrile – HNBR	DH	High	-25 to 300	E	G	G	F-G	G	E	P	G	G-E	E	G-E	G-E	G	E	E	E	G-E
Nitrile – NBR, XNBR	BF, BG, BK, CH	Low	-30 to 250	G-E	F	F	F-G	G	G-E	P	G	G	E	P	G-E	F	F-G	G-E	G-E	P-F
Perfluoroelastomer – FFKM	KK	V High	-10 to 500	P	E	E	E	P	F	E	G	E	E	E	P	G-E	P-F	F-G	G-E	E
Polyacrylate – ACM	DF, DH	Med	0 to 350	G	P	P	P	P	F	P	E	G	E	G-E	F	P	F-G	F	P	E
Polytetrafluoroethylene (Teflon®) – PTFE	None	High	-300 to 500	P-G	E	E	E	E	P	E	F	E	E	E	P	E	E	E	E	E
Polyurethane – AU, EU	BG	High	-40 to 180	E	P	F	F	G	E	P	G	P	G	E	F	P	G-E	E	P/G	E
Silicone – MQ, PMQ, VMQ, PVMQ	FC, FE, GE	Med	-65 to 400	P	F-G	F-G	F	E	P	G	P	E	F	E	G-E	F-G	P	P	E	E
Styrene Butadiene – SBR	AA, BA	Low	-50 to 225	E	F	F	F	G	G-E	P	F	F	P	P	G	F	F-G	G-E	G-E	F
Viton ETP – FEPM	HK	High	-10 to 400	F	E	E	E	P	F	E	F	E	E	E	P	F-G	F	G	E	G

*Excellent, good, fair and poor are intended to serve as general guidelines only. Actual testing in the application environment is always recommended.

E = Excellent G = Good F = Fair P = Poor

CERTIFICATIONS

ALL SEALS
THE SEALING SPECIALISTS

CALIFORNIA
20762 Linear Lane
Lake Forest, CA 92630
800.553.5054 TOLL FREE
714.556.4931 PHONE
714.557.3257 FAX

TEXAS
4407 Halik Road, Building A
Pearland, TX 77581
800.553.5054 TOLL FREE
281.404.4384 PHONE
281.715.5379 FAX

CONTACT
sales@allsealsinc.com
www.allsealsinc.com