

Silicone Housing (Face) Seals

A superior alternative to
flat gaskets and other
gasketing methods



Don't Risk it with Flat Gaskets.

The superior performance of a custom silicone housing seal will protect your design and minimize the risks that come from flat gaskets. Silicone housing seals custom designed by Apple Rubber outperform die-cut flat gaskets in an extensive variety of housing applications. Featuring a round cross-section and designed to your specifications, they ensure a leak-proof environment.

The perfect match of durometer, shape and color.

Available in a durometer range of 20-80 Shore A, the silicone housing seal can be made with the hardness that best matches the requirements of plastic or metal housing applications. Apple Rubber can produce the most complex sealing shapes, as well as color match silicone materials in solid or translucent colors.

Advanced manufacturing processes for cost-effective solutions.

Apple Rubber's LIM (liquid injection molding) systems provide consistent, high-quality and cost-effective housing seals virtually flash-free. We utilize the latest compression and transfer molding technologies to meet your requirements.

Fast prototypes and design engineering assistance.

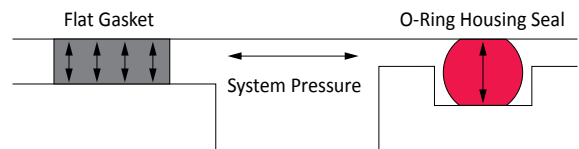
In-house tooling capabilities and an experienced design engineering staff allow Apple Rubber to deliver housing seal prototypes fast. Our engineers have expertise in polymer technology – with a particular emphasis on silicone – as well as plastics, metals and other materials to assist you in creating the right housing seal solution for your application.

Seal it right, right from Apple.

Our housing seals are made in the USA and Apple Rubber sells direct, allowing for direct communication with a knowledgeable sales team and design engineers in one place. As a leading designer and manufacturer of seals and sealing devices, Apple Rubber has the capabilities to meet all your seal requirements. Call or visit applerubber.com today for more information.

Housing Seals vs. Flat Gaskets

Feature/Benefit	Housing Seal	Flat Gasket
Round o-ring cross section to seal better	Yes	No
Reusable after disassembly	Yes	No
Choice of colors	Yes	Limited
Complex shapes	Many	Limited
Design assistance	Yes	No
Buy direct - no middleman	Yes	Not likely
Low compression set	Yes	Not likely
Precision level tolerances	Yes	No

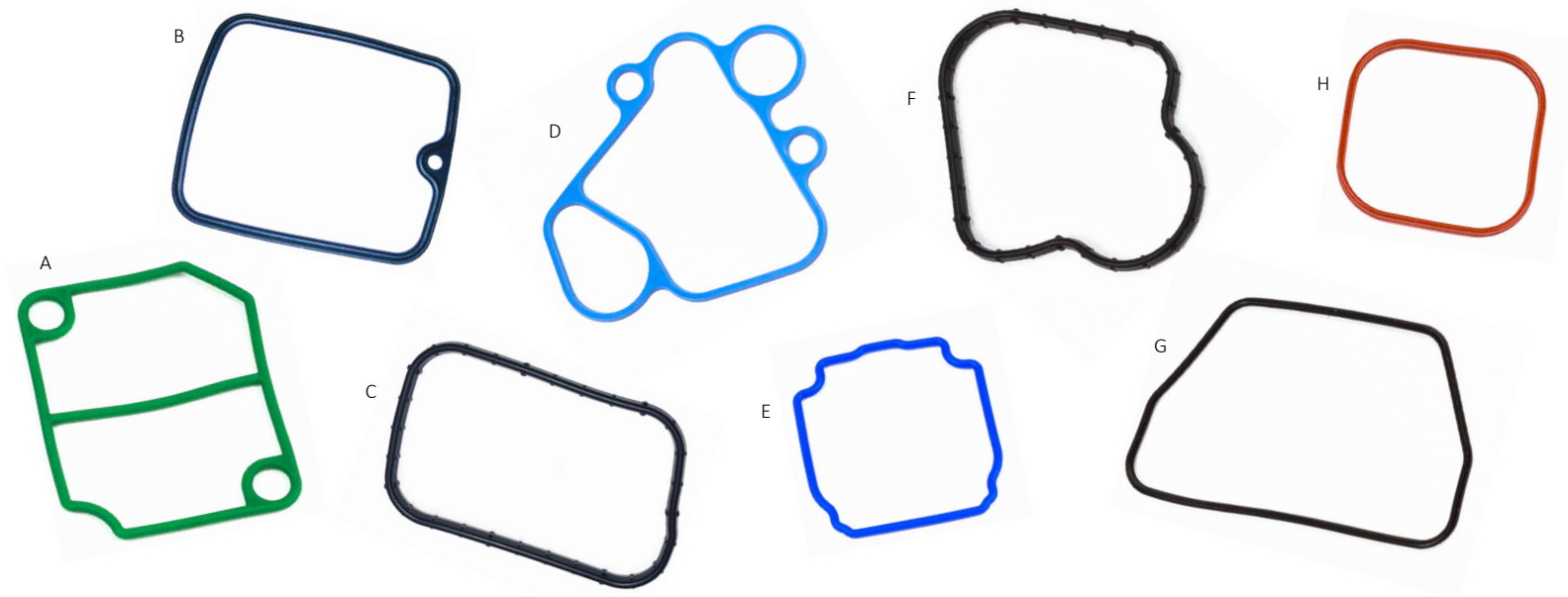


Flat Gasket

- » Die cut tolerances
- » Large surface contact area
- » High fastener loading required to achieve seal
- » Limited to two-dimensional geometry

O-Ring Housing Seal

- » Molded precision tolerances
- » Point load contact area
- » Lower compressive force required
- » Will better absorb variations in surface flatness



A wide range of standard colors.

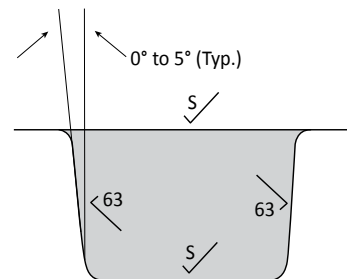
Silicone housing seals from Apple Rubber are available in a wide range of colors (solid or translucent) to match application requirements. These include:

Violet 364	Red 346	Blue 283
Green 102	Black 220	Orange 062
Gray 122	White 056	Green 176
Orange 059	Violet 369	Yellow 136
Red 350	Violet 367	Red 371
Yellow 126G	Red 354	Blue 291
Blue 278	Blue 292	

- A. A housing seal for a pneumatic nail gun produced with liquid silicone rubber to exact specifications.
- B. Housing seal with screw clamping hole for control module housing.
- C. Housing seal with ribs to secure the seal to the lid component so when the lid is opened the seal does not become separated.
- D. The complex shape of a custom housing seal creates one piece serving two functions to protect electronics in aerospace applications.
- E. Weather seals for a digital readout offer low compression force, yet the best compression set resistance.
- F. This housing seal is designed with splines for support in an air flow regulator.
- G. This environmental seal protects automotive control modules and engine management units.
- H. A square shaped housing seal is made for a custom fit on an aircraft computer box.

Gland Design for Housing (Face) Seals

O-Ring Cross Section	Gland Depth	Squeeze		Groove Width $\pm .005$	Groove Radius
		Inches	%		
.040	.027-.030	.007-.016	19-37	.060	.005-.008
.050	.034-.038	.009-.019	19-36	.075	.005-.008
.060	.042-.046	.011-.021	19-33	.090	.005-.008
.070	.049-.054	.013-.024	19-33	.105	.005-.015
.103	.075-.081	.019-.031	19-29	.146	.005-.020
.139	.100-.108	.027-.043	20-30	.195	.005-.030
.210	.155-.165	.040-.060	20-28	.280	.005-.050
.275	.205-.215	.054-.076	20-27	.350	.005-.060



Gland Detail

- » Surface finish: S
 - 32 for liquids
 - 16 for vacuum and gases
- » Finishes are RMS values

One Source for All Your Sealing Needs

Apple Rubber Products stocks AS-568* and most common metric sizes, plus a wide variety of non-standard, mil spec and government-standard o-rings. Standard actual sizes include I.D.'s from .029" to 26" and cross sections from .040" to .275".

Apple offers the widest range of sizes in the industry, starting with our exclusive MicrOrings™, available as small as .008" I.D. We also have a large tooling inventory to eliminate production delays and save you tooling costs. In addition, Apple can custom engineer o-rings and seals for prototypes or full production runs.

To top it off, 93 percent of our orders are shipped within 24 hours. When you call Apple, you deal direct with the manufacturer. Our experienced staff provides complete and comprehensive service to help you get the correct o-ring for your application.

*Please check the latest standard for current version.

Full Line of Quality Apple Rubber Products

Products:

O-Rings — standards, metrics, MicrOrings™, MacrOrings™
LSR (Liquid Silicone Rubber)
Composite seals (rubber bonded to plastic or metal)
Custom-molded seals
Custom-molded shapes
Medical seals
Thermobonded seals
FilterSealSM
Military specs
Standard and exotic materials

Services:

Design capabilities
Prototyping and production runs
Full quality-control laboratory
Class 10,000 (7) Clean Room
ISO 9001 / AS 9100 certifications



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