

Seal Design Guide

Products and Services



Apple Rubber

Products and Services

THE INDUSTRY'S BROADEST RANGE OF PRODUCTS AND SERVICES

As a leading designer and manufacturer of seals and sealing devices, Apple Rubber offers the industry's broadest range of products to meet your seal requirements. We also have an unparalleled range of services and capabilities, and continually implement new technologies to meet the changing needs of our customers. This combination makes Apple Rubber an exceptional resource for your sealing solutions.

An overview of our products and services follows. As always, if you don't see what you need, give us a call at (1-800) 828-7745 or visit our website at applerrubber.com. Experienced, knowledgeable sealing professionals are ready to assist you.

PRODUCTS

» O-Rings

The widest size range of o-rings in the seal industry, including standard AS568 and ISO 3601; most metrics; and a wide variety of non-standard sizes. Available in all common and many special materials and durometers.

of sizes from 5" I.D. to 500" I.D. and in cross sections from .063" to 1". Available in the most popular materials.

CUSTOM PRODUCTS

» MicrOring™ Seals

The largest selection of microminiature o-rings anywhere. A MicrOring™ seal is any o-ring that measures less than 1 mm in either inside diameter (I.D.) or cross section (C.S.). Over 2,000 sizes of MicrOring™ seals, from .039" I.D. or C.S. down to .008" I.D. Microminiature composite seals and custom-engineered microminiature seals also available on special order.

» FilterSeals®

Innovative FilterSeals® are custom designed as a combination elastomer and fabric device that operates as both a seal and a filter. A wide variety of elastomers can be bonded to a variety of filter materials (Teflon™ Membrane, Nylon, stainless steel, etc.). Provide cost and time savings- one part to purchase instead of two; one part to install.

» Composite Seals

Custom-engineered composite seals incorporate the seal and another component in one part: increasing performance and reducing assembly costs. Composite seals include complicated parts such as rubber bonded to metal and plastic.

» MacrOring™ Seals

MacrOring™ seals are manufactured by proprietary processes for greater strength and tighter tolerances than conventional, large sized bonded o-rings. Available in a broad range

» LSR (Liquid Silicone Rubber) Parts and Seals

LSR parts and seals exhibit a wide temperature range (-85°F to 437°F), low compression set, and

resistance to the damaging effects of sunlight and ozone. Available in a durometer range of 10-80 Shore A and custom color for virtually any type seal or part including o-rings, gaskets, face seals, housing seals, FilterSeals® and custom shapes.

» Custom Molded Shapes

Custom designed all-rubber shaped seals to meet exact specifications, including microminiature shapes. Examples include grommets, molded inserts, bushings, poppets, connector seals and piston seals. Custom shapes and seals are available in a wide variety of materials.

» ExpressSeal®

Advanced, computerized manufacturing technology which produces hydraulic and pneumatic seals in minutes for emergency replacements, hard-to-find parts, prototypes and more. U-cups, wipers, piston rings, bushings, back-up rings, wear rings and o-rings also available from inventory.

» Housing Seals

Superior seals custom designed to fit specific housings. Ideal for a variety of applications, they outperform flat gaskets and other gasketing methods. Silicone housing (face) seals are generally reusable after disassembly, unlike RTV gaskets. Available in a range of hardnesses for plastic or metal housing requirements.

» EMI Shielded O-Rings and Seals

Custom designed, EMI-shielded o-rings and seals for a variety of electronic applications provide an alternative to metallic coatings and other methods.

SERVICES

Whether you require design engineering assistance, a fast prototype or a customized quality assurance program, this is where you'll find information on all the services Apple Rubber can provide for your sealing solution.

» Design Engineering

Our engineers have a broad range of experience and knowledge in seal design acquired over



more than 30 years of solving problems for diverse industries and applications. Capabilities include concurrent engineering, complete project management, computer aided design, expertise in polymer technology and other materials and prototyping to drastically reduce development cycle time.

» **Research and Development**

It is our obligation to provide the best sealing solutions of tomorrow as well as today. Confronted continually by the challenges of new applications from industries as diverse as medical, electronics and automotive, we are always exploring new designs, new materials and new processes.

» **Customer Service**

With direct access to Apple Rubber's knowledgeable sales team, design engineers and QC staff, you have the "source" working for you. No middlemen – no confusion – no games.

» **Comprehensive Manufacturing Technologies**

An unparalleled range of capabilities and fully integrated manufacturing facilities including transfer molding, compression molding, liquid silicone molding, plastic injection molding, rubber injection, CNC machining and proprietary bonding processes. Manufacturing is performed in our US plant located in Lancaster, NY.

» **Prototyping**

We have the experience and advanced processes to respond quickly to prototype requirements, helping you to drastically reduce design and development time.

» **ISO 9001 Registration**

Apple Rubber earned ISO 9001 Registration. The scope of our ISO 9001 Registration, the most comprehensive standard of the ISO 9000 series, covers the design and manufacture of sealing components for various applications including aerospace, automotive and medical



products. ISO 9001 Registration is testimony to Apple Rubber's commitment to offering the highest quality seals and sealing devices available. Apple Rubber actively participates in ongoing certification updates. Check our website for the most current certification listings and documentation.

» **AS9100**

Apple Rubber's quality management system meets the requirements of AS9100, Quality Management Systems- Aerospace - Requirements. AS9100 incorporates the requirements of ISO 9001 and adds requirements specific to the aerospace industry.

» **Quality Assurance and Testing**

Apple Rubber's advanced testing laboratory offers one of the most stringent quality assurance programs in the industry. Material and dimensional certifications are available. We can customize a quality program to meet your specific testing requirements and supply documentation with shipments.