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ASTM Standards for Rubber Gaskets

What You Need to Know



Summary: Learn how ASTM standards help manufacturers to source rubber gaskets, and find out which ASTM specifications buyers and designers need to know.

Standards from organizations such as ASTM International help manufacturers to design and develop products that meet established requirements for quality, reliability, and performance.

For engineers and technical buyers, these standards can inform decision-making throughout a product’s life cycle. For example, depending on your project’s specifications, you may need to select gasket materials that meet [ASTM standards for rubber](#).

ASTM’s rubber standards are numerous, however. There are over 30 different categories and hundreds of individual designations, each with an alphanumeric code.

Products and Services / Standards & Publications / Standards Products

Rubber Standards

ASTM's rubber standards are instrumental in specifying, testing, and assessing the physical, mechanical, and chemical properties of a wide variety of materials and products that are made of rubber and its elastomeric derivatives. Rubber, which can either be synthetically produced or derived from the milky colloidal suspension found in the sap of some plants, exhibits unique properties that render it extensively useful in many applications and products. These rubber standards allow rubber manufacturers and end-users to examine and evaluate their material or product of concern to ensure quality and acceptability towards safe utilization.

List of rubber standards developed by ASTM:

Jump to:

- Composite Gaskets
- Equipment, Facilities and Calibration
- Formed in Place Gaskets
- Laboratory (Non-Vehicular) Testing
- Mechanical Test Methods
- Natural Rubber
- Non-Carbon Black Components of Carbon Black
- Physical Testing
- Processability Tests
- Rubber Adhesive Systems
- Application of Statistical Methods

Designation	Title
D4483 - 14a	Standard Practice for Evaluating Precision for Test Method Standards in the Rubber and Carbon Black Manufacturing Industries

Buyers and designers don’t need to know every detail, but it helps to know that there are three broad categories for rubber gaskets: Composite Gaskets, Specifications for Gasket Materials, and Form-In-Place (FIP) gaskets

Let’s look at the first two categories since they apply to gaskets you’d source from a [custom fabrication specialist](#).

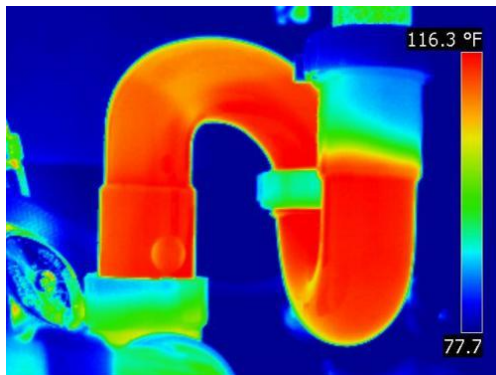
Composite Gaskets

Composite gaskets consist of multiple elastomeric materials and may even include metal. Although our focus is on rubber, take a look at the complete list of ASTM standards in this area.

Designation	Description
F37-06(2013)	Sealability of Gasket Materials
F112-00(2013)	Sealability of Enveloped Gaskets
F336-02(2009)	Nonmetallic Enveloped Gaskets for Corrosive Service
F433-02(2014)e1	Thermal Conductivity of Gasket Materials
F235-14	Metal Layer Gaskets for Transportation Applications
F2378-05(2011)	Sealability of Sheet, Composite, and Solid Form-in-Place Gasket Materials
F2467-06(2013)	Static Sealing Pressure using Pressure-Indicating Film (PIF) for Transportation
F2716-08(2014)	Comparison of Nonmetallic Flat Gaskets in High Pressure Saturated Steam

Some of these ASTM standards describe test methods, design practices, or material classifications. Others offer guidance for evaluating material performance, suitability for transportation applications, or material properties such as thermal conductivity.

How would a buyer or designer use these standards? How does working with an experienced custom fabricator support [compound selection](#)? Let's consider a few some examples.



Do you need to source an elastomer with heat transfer properties? Then you may need a gasket material that meets the thermal conductivity requirements of [ASTM F433-02\(2014\)e1](#).

Does your application require minimum liquid leakage under load for a time period of 5 to 30 minutes? Then you may need a gasket material that's been tested against [ASTM F37-06\(2013\)](#).

Specifications for Gasket Materials

ASTM's rubber standards also include this gasket-related specification.

Designation	Description
F37-06(2013)	Preformed Open-Cell Sponge Rubber Pail and Drum Gaskets

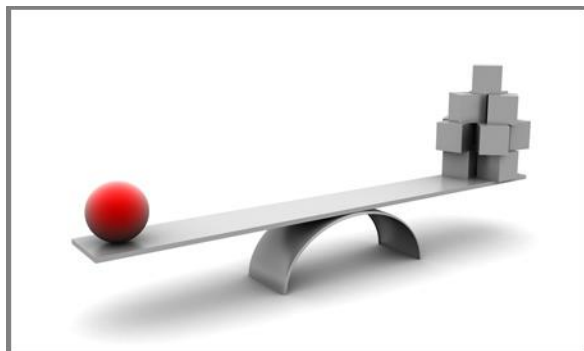
This spec is very specific, of course, but it's an important one to understand if you need to source open-cell sponge rubber for use in new or reconditioned pails or drums.



[ASTM F37-06\(2013\)](#) divides materials into Class A (non-oil resistant) and Class B (oil resistant). In turn, each class contains Grade 1, Grade 2, and Grade 3 designations.

Other material specifications also use classes and grades, so all buyers and designers can learn some important lessons about material selection from this ASTM standard.

If your project requires a gasketing material that meets Class B, Grade 1 specifications, then choosing a Class A, Grade 2 elastomer won't do. Different types of rubber have different material properties, and a rubber that lacks oil resistance is the wrong choice for a gasket that gets splashed with machine oil.



But why choose an expensive fluorocarbon or fluorosilicone if a [cost-effective](#) neoprene or nitrile will meet your oil-resistance requirements?

Sometimes, selecting the right material means striking a balance. Do you need help sourcing sealing and insulation solutions?

How Can We Help You?



[Contact us](#) at our website or via any of the methods below.

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