



## Standard Definitions of Terms Relating to Gaskets<sup>1</sup>

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### 1. Scope

1.1 This standard is a compilation of terminology, related definitions, and descriptions of terms used in the gasket industry. Included terms are those used to define materials, testing technology, and testing results related to gaskets.

### 2. Terminology

**adhesion**—the measurable attraction or bonding of a gasket material to a surface after the application of temperature, or compressive stress, or both. **F607**

**annulus**—a cut gasket shape consisting of two concentric circles of known geometry.

**binder**—a component of certain gasket materials, which solidifies the structure, imparts uniform adhesion to surfaces, and has an impact on the pore structure and resiliency.

**blowout, gasket**—the sudden release of internal pressure by a gasket sealing a flange with a given stress applied. The internal pressure needed to create a blowout is also known as the blowout pressure. **F434**

**classification**—a means of specifying categories of gasket materials according to composition, method of manufacture, mechanical characteristics, and physical characteristics. **F104**

**combustibles**—components of gasket material which are lost on ignition at a given temperature. **F495**

**compressed thickness**—the measured thickness of a gasket material with a known compressive stress applied.

**compressibility**—in compressibility/recovery testing of gasket materials, the difference between the specimen thickness under preload and thickness under total load, divided by the thickness under preload, expressed as a percent. **F36, F806**

**compressive strength/crush extrusion resistance**—maximum compressive stress before crush occurs at a specified temperature without regard for leakage. **F1574**

**compressive yield**—the point which the slope of the relationship between applied stress and deformation of a gasket material changes. **F1574**

**creep**—a transient stress-strain condition in which the strain increases as the stress remains constant. (This condition is approached in flat-face gasketing joints in which the bolt undergoes a high elongation relative to any creep that might take place in the gasket.) **F38**

**creep relaxation**—a transient stress-strain condition in which the strain increases concurrently with the decay of stress. (This is the most common condition existing in flat-face gasketing assemblies in which the bolt exhibits a relatively large amount of elongation.) Strain is related to material creep under the flange and stress is related to bolt stretch/elongation. **F38**

**cross-sectional area**—the area of a gasket specimen defined as the width times the thickness.

**crush**—maximum load capability of a gasket material has been exceeded by excessive external force, causing permanent deformation of the material matrix. This permanent deformation is normally exhibited as splits in the gasket material upon disassembly of the joint.

**deflection**—gasket material deformation in the “thickness direction” caused by the application of stress. **F1276**

**deformation**—the percentage by which a gasket material is deformed under stress or after the application of stress. **F1574**

**density**—the mass per unit volume for a given gasket material measured under defined conditions. **F1315**

**description/line call out**—an alphanumeric term used to define the composition, method of manufacture, mechanical properties, and physical properties of a gasket material. **F104, F868**

**disintegration**—the process by which a gasket material breaks up into components or fragments after exposure to a given fluid and/or environment. **F148**

**durability**—the resistance to disintegration of a gasket material after exposure to a given fluid and/or environment. **F148**

<sup>1</sup> These definitions are under the jurisdiction of ASTM Committee F03 on Gaskets and are the direct responsibility of Subcommittee F03.94 on Terminology.

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