



Designation: F 118 – 97

Standard Definitions of Terms Relating to Gaskets¹

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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

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.

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.)

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.)

flange—the rigid members of a gasketed joint that contact the sides or edges of the gasket.

flanged joint—see **gasketed joint**, which is a preferred term.

gasket—a material that may be clamped between faces and acts as a static seal. Gaskets are cut, formed, or molded into the desired configuration. They may consist of any of the following constructions:

(a) One or more plies of a sheet material;

(b) Composites of dissimilar materials; and

(c) Materials applied as a bead or other form to one or both mating faces prior to assembly.

gasketed joint—the collective total of all members used to effect a gasketed seal between two separate items.

leak—the passage of matter through interfacial openings or passageways, or both, in the gasket.

maintenance factor, m —the factor that provides the additional preload capability in the flange fasteners to maintain sealing pressure on a gasket after internal pressure is applied to the joint.

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

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

strain—the deformation of a gasket specimen under the action of applied force or stress.

stress relaxation—a transient stress-strain condition in which the stress decays as the strain remains constant. (This condition is encountered in grooved-face gasketing joints in which metal-to-metal contact occurs. This condition is also approached in flat-face gasketing joints when the bolt is practically infinitely rigid.)

yield factor (minimum design seating stress, y)—the factor that represents the pressure in megapascals (or pounds-force per square inch) over the contact area of the gasket that is required to provide a sealed joint, with no internal pressure in the joint.

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