Designation: F2325 – 03(Reapproved 2009)

Standard Classification for Multi-Layer Steel (MLS) and Other Metal Layer Gaskets for Transportation Applications[1]

This standard is issued under the fixed designation F2325; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 This classification covers a means for specifying Multi-Layer Steel (MLS) and other Metal Layer Gaskets for Transportation Applications by application and construction. These structures are composed of one or more steel or metal layers of material, which may have coatings or embossments. Commercial materials designated as composite or enveloped gaskets are excluded from this classification and are covered by Classification F868 and Practice F336, respectively.

1.2 Since all of the properties that contribute to gasket performance are not included, use of this classification as a basis for selecting an MLS or Metal Layer gasket is limited.

1.3 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory requirements prior to use.*

2. Referenced Documents

2.1 *ASTM Standards:*[2]

A109/A109M Specification for Steel, Strip, Carbon (0.25 Maximum Percent), Cold-Rolled

A666 Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar

D1418 Practice for Rubber and Rubber Latices—Nomenclature

D2000 Classification System for Rubber Products in Automotive Applications

F336 Practice for Design and Construction of Nonmetallic Enveloped Gaskets for Corrosive Service

F868 Classification for Laminated Composite Gasket Materials

2.2 *SAE Standard:*

SAE AE-13 Gasket and Joint Design Manual for Engine and Transmission Systems[3]

3. Terminology

3.1 *Definitions of Terms Specific to This Standard:*

3.1.1 *active layer(s)*—an embossed layer(s) used to provide the primary sealing function.

3.1.2 *embossment (emboss)*—a raised area of a steel or metal layer in relief from the rest of the layer with a defined geometry typically used at the sealing interface. Embossments may also be used to shift load to areas, which require better sealing performance.[4]

3.1.3 *exterior coating*—a supplemental coating applied to the exterior of the gasket for anti-fret, anti-blocking, or sealing enhancement.

3.1.4 *inactive layer(s)*—the flat or non-embossed layer(s) used for spacing or other purposes within the gasket.

3.1.5 *load stop (stopper)*—a device used to control compression between layers in an MLS or Metal Layer gasket.

4. Significance and Use

4.1 This classification is intended to encourage uniformity in reporting properties of MLS and Metal Layer gaskets, to provide a common language for communications between producers and users, and to guide engineers and designers in the application and construction of commercially available gaskets.

5. Basis of Classification

5.1 This classification is based on the principle that MLS and Metal Layer gaskets should be described, in terms of the transportation application and construction. Thus, users of MLS and Metal Layer gaskets can, by selecting different combinations, define various parts needed for specific applications. Likewise, producers can report applications and construction of available products.

[1] This classification is under the jurisdiction of ASTM Committee F03 on Gaskets and is the direct responsibility of Subcommittee F03.10 on Composite Gaskets.

Current edition approved Oct. 1, 2009. Published March 2010. Originally approved in 2003. Last previous edition approved in 2003 as F2325 – 03. DOI: 10.1520/F2325-03R09.

[2] For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

[3] Available from Society of Automotive Engineers (SAE), 400 Commonwealth Dr., Warrendale, PA 15096-0001.

[4] Load shifting reference from SAE AE-13, "Gasket and Joint Design Manual for Engine and Transmission Systems."