



Designation: F1699 – 96(Reapproved 2008)

## Standard Classification for Passive Fiber Optic Seals<sup>1</sup>

This standard is issued under the fixed designation F1699; 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 ( $\epsilon$ ) indicates an editorial change since the last revision or reapproval.

### 1. Scope

1.1 This classification covers a specific category of commercially available passive seals.

1.2 *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 limitations prior to use.*

### 2. Referenced Documents

2.1 *ASTM Standards:*<sup>2</sup>

F832 [Classification for Security Seals](#)

F946 [Guide for Establishing Security Seal Control and Accountability Procedures](#)

### 3. Terminology

3.1 *Definitions of Terms Specific to This Standard:*

3.1.1 *body, n*—the mechanical mechanism that secures the fiber optic loop and facilitates inspection of the seal.

3.1.2 *fiber optic, n*—a fiber optic cable that is threaded through mechanical fixtures on the item being sealed.

3.1.2.1 *Discussion*—The fiber optics can be either a plastic or glass inner core with a fire-resistant poly(vinyl chloride) (PVC) protective coating.

<sup>1</sup> This classification is under the jurisdiction of ASTM Committee F12 on Security Systems and Equipment and is the direct responsibility of Subcommittee F12.50 on Locking Devices.

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<sup>2</sup> 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.

3.1.3 *passive, adj*—receiving or being subjected to an action without responding or initiating an action in return.

3.1.4 *seal, n*—a passive, one-time locking device used to detect tampering or entry, afford limited resistance to entry, or provide a combination of both functional aspects.

3.1.4.1 *Discussion*—Seals require inspection to indicate whether tampering has occurred or entry has been attempted.

3.1.5 *tamper-indicating device (TID), n*—a mechanical device whose physical change in state is an obvious indication of tamper.

### 4. Significance and Use

4.1 This classification is intended to provide information on currently available commercial seals as a guide in their selection for specific applications. This classification is not intended to inhibit the innovation or development of new types of seals.

### 5. Basis of Classification

5.1 Passive fiber optic seals in this classification are classified by their configuration, passive operation, and the materials from which they are made.

### 6. Types of Seals

- 6.1 Single-strand glass fiber optic core.
- 6.2 Single-strand plastic fiber optic core.
- 6.3 Multi-stranded glass fiber optic core.
- 6.4 Multi-stranded plastic fiber optic core.

### 7. Keywords

7.1 fiber optics; fiber optic seal; lock; passive seal; seal; security