



# Standard Specification for Packing Material, Graphitic, Corrugated Ribbon or Textured Tape, and Die-Formed Ring<sup>1</sup>

This standard is issued under the fixed designation F2168; 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 *Scope*—This specification covers various types, classes, and grades of flexible graphite material in which valve media temperatures are limited to a maximum of 966°C. Where this specification is invoked as ASTM F2168, Sections 1 – 18 apply. Where this specification is invoked as ASTM/DoD F2168, Sections 1 – 18 and the Supplementary Requirements apply.

1.2 The values stated in SI units are to be regarded as standard. No other units of measurement are included in this standard.

## 2. Referenced Documents

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

- C559 Test Method for Bulk Density by Physical Measurements of Manufactured Carbon and Graphite Articles
- C561 Test Method for Ash in a Graphite Sample
- C816 Test Method for Sulfur in Graphite by Combustion-Iodometric Titration Method
- C889 Test Methods for Chemical and Mass Spectrometric Analysis of Nuclear-Grade Gadolinium Oxide ( $Gd_2O_3$ ) Powder
- D129 Test Method for Sulfur in Petroleum Products (General High Pressure Decomposition Device Method)
- D512 Test Methods for Chloride Ion in Water
- D1179 Test Methods for Fluoride Ion in Water
- D1246 Test Method for Bromide Ion in Water
- D3178 Test Methods for Carbon and Hydrogen in the Analysis Sample of Coal and Coke (Withdrawn 2007)<sup>3</sup>
- D3684 Test Method for Total Mercury in Coal by the

Oxygen Bomb Combustion/Atomic Absorption Method (Withdrawn 2014)<sup>3</sup>

D3761 Test Method for Total Fluorine in Coal by the Oxygen Bomb Combustion/Ion Selective Electrode Method

D3951 Practice for Commercial Packaging

D4239 Test Method for Sulfur in the Analysis Sample of Coal and Coke Using High-Temperature Tube Furnace Combustion

## 3. Terminology

### 3.1 Definitions:

3.1.1 *accordion crease, n*—because of the method of construction of die-formed rings, an accordion-like linear indication (crease) appear singularly or in multiple locations around the inside and outside diameter surface.

3.1.2 *corrosion inhibitors, n*—additives to the products to function in a passive or sacrificial manner to reduce galvanic corrosion. These additives are typically embedded zinc powder, phosphorus, or barium molybdate.

3.1.3 *corrugated ribbon, n*—graphite ribbon or tape that is subjected to mechanical pressure in a consistent manner to apply surface indentations to the tape or ribbon.

3.1.4 *density, n*—the mass per unit volume at a specified temperature.

3.1.5 *detrimental materials, n*—abrasive or chemically active constituents such as ash particles (in high ash content foils) or elemental materials that cause galvanic action or corrosion in long-term storage or service environments.

3.1.6 *die-formed ring, n*—a packing ring made by mechanically compacting winds of graphite ribbon or braided packing in a die or fixture.

3.1.7 *lot, n*—all finished packing of one size, type, class, and grade produced in a continuous run or at the same time under essentially the same conditions.

3.1.8 *set, n*—the packing components required to pack one valve.

3.1.9 *size, n*—the physical dimensions of the packing material.

<sup>1</sup> This specification is under the jurisdiction of ASTM Committee F25 on Ships and Marine Technology and is the direct responsibility of Subcommittee F25.02 on Insulation/Processes.

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

<sup>3</sup> The last approved version of this historical standard is referenced on [www.astm.org](http://www.astm.org).