



## Standard Specification for Compression Joints for Vitrified Clay Pipe and Fittings<sup>1</sup>

This standard is issued under the fixed designation C 425; 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.

*This standard has been approved for use by agencies of the Department of Defense.*

### 1. Scope

1.1 This specification covers materials and test requirements for compression joints for vitrified clay pipe and fittings. See Specification C 700 for pipe specifications. The test requirements are applicable to pipe joint assemblies prior to field installation of pipe.

1.2 The values stated in inch-pound units are to be regarded as the standard. The values given in parentheses are for information only.

NOTE 1—Install pipe in accordance with Practice C 12.

1.3 The following precautionary caveat pertains only to the Test Requirements portion, Section 7, of this standard. *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:

- A 167 Specification for Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet, and Strip<sup>2</sup>
- A 240/A 240M Specification for Heat-Resisting Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels<sup>2</sup>
- C 12 Practice for Installing Vitrified Clay Pipe Lines<sup>3</sup>
- C 700 Specification for Vitrified Clay Pipe, Extra Strength, Standard Strength, and Perforated<sup>3</sup>
- C 896 Terminology Relating to Clay Products<sup>3</sup>
- D 395 Test Methods for Rubber Property-Compression Set<sup>4</sup>
- D 412 Test Methods for Vulcanized Rubber and Thermoplastic Elastomers-Tension<sup>4</sup>
- D 471 Test Method for Rubber Property-Effect of Liquids<sup>4</sup>
- D 518 Test Method for Rubber Deterioration-Surface Cracking<sup>4</sup>

- D 543 Practices for Evaluating the Resistance of Plastics to Chemical Reagents<sup>5</sup>
- D 573 Test Method for Rubber-Deterioration in an Air Oven<sup>4</sup>
- D 883 Terminology Relating to Plastics<sup>5</sup>
- D 1149 Test Method for Rubber Deterioration-Surface Ozone Cracking in a Chamber<sup>4</sup>
- D 1566 Terminology Relating to Rubber<sup>4</sup>
- D 2240 Test Method for Rubber Property-Durometer Hardness<sup>4</sup>

### 3. Terminology

- 3.1 *Definitions*—Terms relating to plastics and rubber shall be as defined in Terminologies D 883 and D 1566, respectively.
- 3.2 Terminology C 896 can be used for clarification of terminology in this specification.

### 4. Principles of Joint Design

- 4.1 Sealing elements shall be compressed between bearing surfaces to assure watertight integrity as required in Section 7.
- 4.2 Sealing elements shall either be bonded to bearing surfaces or be independent elements.

### 5. Materials and Manufacture

- 5.1 Rubber ring-sealing elements shall conform to the requirements of Table 1.
- 5.2 Rubber for other than ring-sealing elements shall conform to the requirements of Table 2.
- 5.3 Plastic components shall conform to the requirements of Table 3.
- 5.4 Metallic components shall be of corrosion-resistant metal conforming to Specifications A 167 and A 240/A 240M.
- 5.5 If any of the test specimens fail to meet the chemical resistance requirements, the manufacturer will be allowed a retest of two additional specimens, representative of the original material tested, for each one that failed. The jointing material will be acceptable if all retest specimens meet the test requirements.
- 5.6 Joints complying with this standard are suitable for most domestic and commercial applications. However, attention is called to the fact that industrial effluents vary in content, concentration, duration of discharge and temperature; and

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<sup>2</sup> *Annual Book of ASTM Standards*, Vol 01.03.

<sup>3</sup> *Annual Book of ASTM Standards*, Vol 04.05.

<sup>4</sup> *Annual Book of ASTM Standards*, Vol 09.01.

<sup>5</sup> *Annual Book of ASTM Standards*, Vol 08.01.