



Designation: C 1228 – 96 (2004)

## Standard Practice for Preparing Coupons for Flexural and Washout Tests on Glass Fiber Reinforced Concrete<sup>1</sup>

This standard is issued under the fixed designation C 1228; 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 practice covers preparation of test coupons to be used in tests of plant manufactured thin-section glass fiber reinforced concrete (GFRC).

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.*

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

### 2. Referenced Documents

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

**C 947** Test Method for Flexural Properties of Thin-Section Glass-Fiber-Reinforced Concrete (Using Simple Beam with Third-Point Loading)

**C 1229** Test Method for Determination of Glass Fiber Content in Glass Fiber Reinforced Concrete (GFRC) (Wash-Out Test)

### 3. Significance and Use

3.1 Flexural strengths, as determined by Test Method **C 947**, are used for quality control and design of GFRC products and may be used to verify compliance with specifications and to collect data in research and development programs. It is, therefore, important that coupons be prepared according to a standard practice. The coupons are used to make test specimens for Test Method **C 947** and for Test Method **C 1229** to determine the amount of glass fiber reinforcement per unit volume of GFRC for quality control purposes.

<sup>1</sup> This practice is under the jurisdiction of ASTM C27 on Precast Concrete Products and is the direct responsibility of Subcommittee C27.40 on Glass Fiber Reinforced Concrete Made by the Spray-Up Process.

Current edition approved December 1, 2004. Published January 2005. Originally approved in 1993. Last previous edition approved in 1996 as C 1228 – 96.

<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.

### 4. Apparatus

4.1 *Form*—The form shall be rectangular in shape; made from wood, fiberglass reinforced plastic (FRP), GFRC, or steel with dimensions of ½ in. (13 mm) deep by 18 in. (450 mm) wide and 48 in. (1200 mm) long.

4.2 *Steel Trowel*, at least 20 in. (500 mm) long.

4.3 *Serrated Roller*, with handle.

4.4 *Strike-Off Bar (screed)*, at least 20 in. (500 mm) long, for leveling and thickness control of specimens.

### 5. Sampling

5.1 Sampling shall be in accordance with governing specifications.

### 6. Procedure

6.1 For plant manufactured product quality control purposes, spray the glass fiber reinforced material into the test form using the same method as used in production. The methods and conditions should be the same as for production materials except no mist coat or face mix should be used.

6.2 Trim off excess material from the sides of the form using a steel trowel.

6.3 Trowel surface smooth using a steel trowel.

6.4 See **Fig. 1** for cutting layout for flexural test coupons and washout test coupons.

### 7. Curing

7.1 Cure the sample panel using the same methods and conditions as that used for production products.

### 8. Coding

8.1 Identify each sample board, and coupons.

### 9. Retained Samples

9.1 Retain samples as prescribed by Test Method **C 947**.

### 10. Keywords

10.1 coupons; flexural tests; glass fiber content; glass fiber reinforced concrete (GFRC); strength