



Standard Specification for Chemical-Resistant Resin Mortars¹

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1. Scope

1.1 This specification covers the requirements for chemical-resistant resin mortars for bonding chemical-resistant brick or tile. Mortars of this group generally have better physical properties and resist a wider variety of chemicals than inorganic mortars. For the use of these materials, see Practice C 399.

NOTE 1—Resin mortars and grouts are differentiated as follows: resin mortars are troweled onto the brick or tile, in sufficient quantity to achieve a ⅛-in. (3-mm) thick joint after the brick or tile are laid in place (buttering or bricklayer's method). Resin grouts are applied to the joints, generally ¼in. (6 mm) wide, after the brick or tile are set in place and the setting bed has hardened (grouting or tilesetter's method). Refer to Specification C 658.

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.

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 limitations prior to use.*

2. Referenced Documents

2.1 ASTM Standards:

- C 267 Test Methods for Chemical Resistance of Mortars, Grouts, and Monolithic Surfacing and Polymer Concretes²
- C 279 Specification for Chemical-Resistant Masonry Units²
- C 307 Test Method for Tensile Strength of Chemical-Resistant Mortar, Grouts, and Monolithic Surfacing²
- C 308 Test Methods for Working, Initial Setting, and Service Strength Setting Times of Chemical-Resistant Resin Mortars²
- C 321 Test Method for Bond Strength of Chemical-Resistant Mortars²
- C 399 Practice for Use of Chemical-Resistant Resin Mortars²
- C 413 Test Method for Absorption of Chemical-Resistant

Mortars, Grouts, and Monolithic Surfacing²

C 531 Test Method for Linear Shrinkage and Coefficient of Thermal Expansion of Chemical-Resistant Mortars, Grouts, Monolithic Surfacing, and Polymer Concretes²

C 579 Test Method for Compressive Strength of Chemical-Resistant Mortars, Grouts, Monolithic Surfacing, and Polymer Concretes²

C 658 Specification for Chemical-Resistant Resin Grouts for Brick or Tile²

C 904 Terminology Relating to Chemical-Resistant Non-metallic Materials²

3. Terminology

3.1 *Definitions*—For definitions of terms, refer to Terminology C 904.

4. Types of Resins, Fillers, and Setting Agents

4.1 The liquid resin may be phenolic, furan epoxy, polyester, vinyl ester, or some other resinous material capable of forming a chemical-resistant mortar when mixed with a suitable setting agent and filler.

4.2 The fillers may be silica, carbon, or some other chemical-resistant material.

4.3 The setting agents may include amines, polyamides, peroxides, acids or other reactants. Setting agents may be supplied as a separate component to be incorporated into the resin and filler at the time of mixing or may be supplied as a constituent of the filler.

5. Physical Properties

5.1 Resin mortars prepared from these materials shall conform to the respective physical requirements prescribed in Table 1.

6. General Requirements

6.1 The resin shall have a viscosity that will permit it to be readily mixed with the powder by manual methods. The filler materials shall have properly graded particles that will permit the preparation of a minimum joint thickness of ⅛in. (1.6 mm).

7. Chemical Resistance

7.1 The chemical resistance of these mortars are best determined by use of Test Methods C 267. Specific recommendations for immersion service can usually be found in the

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² *Annual Book of ASTM Standards*, Vol. 04.05.