



Designation: C 722 – 94

## Standard Specification for Chemical-Resistant Resin Monolithic Surfacing<sup>1</sup>

This standard is issued under the fixed designation C 722; 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 approval. A superscript epsilon ( $\epsilon$ ) indicates an editorial change since the last revision or reapproval.

### 1. Scope

1.1 This specification covers the requirements for filled resin-based systems suitable for use as trowel- or spray-applied monolithic surfacings in areas where chemical resistance is required. Two types are covered:

1.1.1 *Type A*—Surfacings where chemical resistance and resistance to moderate to heavy traffic are required.

1.1.2 *Type B*—Surfacings where mild chemical resistance and severe thermal shock stability (or resistance) are required.

1.2 Seamless decorative flooring materials and monolithic surfacings utilized as vessel linings are excluded from this specification.

1.3 The following precautionary caveat pertains only to the test methods 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:

C 267 Test Method for Chemical Resistance of Mortars, Grouts, and Monolithic Surfacing<sup>2</sup>

C 307 Test Method for Tensile Strength of Chemical-Resistant Mortars, Grouts, and Monolithic Surfacing<sup>2</sup>

C 308 Test Methods for Working, Setting, and Service Strength Setting Times of Chemical-Resistant Resin Mortars<sup>2</sup>

C 413 Test Method for Absorption of Chemical-Resistant, Mortars, Grouts, and Monolithic Surfacing<sup>2</sup>

C 531 Test Method for Linear Shrinkage and Coefficient of Thermal Expansion of Chemical-Resistant Mortars, Grouts, Monolithic Surfacing, and Polymer Concretes<sup>2</sup>

C 579 Test Methods for Compressive Strength of Chemical-Resistant Mortars, Grouts, Monolithic Surfacing, and Polymer Concretes<sup>2</sup>

C 580 Test Method for Flexural Strength and Modulus of Elasticity of Chemical-Resistant Mortars, Grouts, Monolithic Surfacing, and Polymer Concretes<sup>2</sup>

### 3. Terminology

#### 3.1 Definitions:

3.1.1 *chemical-resistant resin monolithic surfacing*—an intimate mixture of a liquid resin-based material, setting agent, and filler system composed of properly selected and graded materials. These components are normally mixed at temperatures of 70 to 85°F (21 to 29°C) to form a trowelable or, in some cases, a sprayable mixture that hardens after placement of a minimum thickness of 60 mils (1.5 mm).

3.1.2 *monolithic*—as applied to surfacing in this usage, a continuous surfacing 60 mils (1.5 mm) in thickness or greater, which cures in place and is applied over an existing or newly placed substrate and continuously bonded to the surface.

### 4. Type of Resins and Fillers

4.1 The liquid resin base may be (1) epoxy resin, (2) polyester or vinyl ester resin, or (3) any other resinous material capable of forming chemical-resistant surfacing material when mixed with a suitable setting agent and filler.

4.2 The fillers are usually of a siliceous or carbonaceous nature. The filler materials shall be selected to have adequate resistance to the particular chemicals to which they will be exposed when properly combined with the resin system.

4.3 The setting agent may be of the reactive or catalyst type. It is usually supplied separately to be added to the resin prior to use in accordance with the manufacturer's recommendation. However, in some cases it may be incorporated in the powder in such a manner that it becomes effective when mixed with the resin. The service limitations of the cured system shall be defined by the manufacturer.

### 5. Physical Requirements

5.1 Resin-based monolithic surfacings prepared from these materials shall conform to the respective physical requirements prescribed in Table 1.

<sup>1</sup> This specification is under the jurisdiction of ASTM Committee C-3 on Chemical-Resistant Nonmetallic Materials and is the direct responsibility of Subcommittee C03.02 on Mortar and Monolithics.

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<sup>2</sup> *Annual Book of ASTM Standards*, Vol 04.05.