Designation: C 811 – 98 (Reapproved 2003)

Standard Practice for Surface Preparation of Concrete for Application of Chemical-Resistant Resin Monolithic Surfacings[1]

This standard is issued under the fixed designation C 811; 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 (ϵ) 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 practice provides for the preparation of concrete to receive resinous monolithic surfacings. In these recommendations, the term *monolithic surfacings* includes toppings applied 60 mils (1.5 mm) in thickness or greater over concrete, which cure in place, are continuously bonded to the concrete surface, and provide a continuous surfacing.

1.2 The surfacings consist of fillers, resins, and hardeners which when properly mixed, applied and cured, bond to primed or unprimed concrete. The monolithic surfacings may be either reinforced or unreinforced.

1.3 This practice does not restrict the method of application.

1.4 This practice is intended for use with filled resin systems such as those covered by Specification C 722 and is not intended to supersede specific manufacturer's instructions.

1.5 *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:*[2]

C 722 Specification for Chemical-Resistant Resin Monolithic Surfacings[3]

C 904 Terminology Relating to Chemical-Resistant Nonmetallic Materials

D 4258 Practice for Surface Cleaning Concrete for Coating

D 4259 Practice for Abrading Concrete

D 4260 Practice for Acid Etching Concrete

D 4262 Test Method for pH of Chemically Cleaned or Etched Concrete Surfaces

D 4263 Test Method for Indicating Moisture in Concrete by the Plastic Sheet Method

D 4285 Test Method for Indicating Oil or Water in Compressed Air

2.2 *Other Standards:*

ACI 308 Recommended Practice for Curing Concrete[4]

ACI 503R-89 Use of Epoxy Compounds with Concrete[4]

3. Terminology

3.1 *Definitions*—For definitions of terms used in this practice, see Terminology C 904.

4. Concrete Requirement

4.1 The concrete should be designed to withstand all structural, thermal, mechanical stresses, and loading which will occur during service. It must remain stable while protected by the monolithic surfacing and be provided with all necessary expansion, construction, control, and isolation joints to allow it to perform. Failure of the substrate to remain stable will invariably affect the performance of the surfacing. In particular, cracking of the substrate is likely to mirror in the monolithic surfacing.

4.2 Hydrostatic pressure, water vapor gradient, and capillary action, or any combination of these, forced against or through the concrete may cause adhesion failure between the topping and the concrete surface. A waterproofing or drainage system may be required to address these concerns.

4.3 New concrete should be cured in accordance with good concrete practice. See ACI-308.

4.4 Film forming type curing membranes shall be removed from the surface of the concrete unless approved as being compatible by the surfacing manufacturer. The removal or compatibility of these materials can be verified by testing in accordance with 7.3.

4.5 In placing concrete floors, after the proper leveling of the concrete, it shall be wood float finished, followed by a single pass metal trowel finish to produce a relatively laitance-free substrate. Lubricants or release agents shall not be used on tools.

[1] This practice is under the jurisdiction of ASTM Committee C03 on Chemical-Resistant Nonmetallic Materials and is the direct responsibility of Subcommittee C03.02 on Mortar and Monolithics.

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[2] 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.

[3] Withdrawn.

[4] Available from American Concrete Institute (ACI), P.O. Box 9094, Farmington Hills, MI 48333.

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