



Designation: D 4227 – 99 (Reapproved 2005)

Standard Practice for Qualification of Coating Applicators for Application of Coatings to Concrete Surfaces¹

This standard is issued under the fixed designation D 4227; 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.

1. Scope

1.1 This practice provides a standard qualifying method for coating applicators to verify their proficiency and ability to attain the required quality for application of specified coatings to concrete surfaces including those in safety-related areas in a nuclear facility.

1.2 Variations or simplifications of the practice set forth herein may be appropriate for special coating work such as maintenance. It is not the intent of this practice to mandate a singular basis for all qualifications.

1.3 Evaluation of the coating applicator being qualified in accordance with this practice, shall be by qualified agents as specified in 4.1. Reports shall be prepared as specified in Section 5, and qualification as specified in Section 6.

1.4 It is the intent of this practice to judge only the ability of the coating applicator to apply specified coatings with the proper tools and equipment.

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

1.6 *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. Terminology

2.1 Definitions:

2.1.1 *coating applicator, n*—an individual who has worked in the painting trade sufficiently long enough to master the use of all applicable tools and the materials being applied.

2.1.2 *qualifying agents, n*—the designated representatives of the owner or of the coating organization, or both, who have sufficient experience in the practical application and evaluation of coating applied to concrete surfaces.

2.1.3 *governing documents, n*—technical specifications, jobsite procedures, and reference documents.

3. Application of Coatings

3.1 This practice requires the coating applicator to apply the specified coating in conformance to the governing documents to a test area similar to that detailed in Fig. 1 and Fig. 2. A physical test area may be selected by the owner/representative. The test area shall simulate job conditions and acceptance criteria shall be the specification requirement.

3.1.1 *Ceiling Section*—Beginning at the wall line, one 5 by 5-ft (1.5 by 1.5-m) coating.

3.1.2 *Wall Section*—Beginning at the floor line, one 5 by 5-ft (1.5 by 1.5-m) coating.

3.1.3 *Floor Section*—Beginning at the wall line and connecting with the wall section, one 5 by 5-ft (1.5 by 1.5-m) coating.

3.2 This practice requires the coating applicator perform the application using the proper technique and application equipment consistent with the governing documents.

3.3 The surfaces of the concrete test area shall be prepared in accordance with the governing documents.

3.4 The coating applicator shall demonstrate the ability to apply the specified coating to a uniform dry film thickness in accordance with the governing documents, as evaluated by the qualifying agents.

3.5 When desired by the owner, one of the test surfaces may include embedded steel.

3.6 If a coating system specified requires a primer, intermediate, and finish coat, treat each coat as a separate application, allowing a specified drying time before applying each succeeding coat.

3.7 The coating applicator shall be provided with the following:

3.7.1 Information regarding the specified coating material(s), including wet and dry film thickness required, and all other information contained in the governing documents for the coating system being applied.

3.7.2 Coating materials properly mixed in accordance with the governing documents and ready for application.

3.7.3 The necessary equipment for the proper application of the specified coating.

¹ This practice is under the jurisdiction of ASTM Committee D33 on Protective Coating and Lining Work for Power Generation Facilities and is the direct responsibility of Subcommittee D33.05 on Application and Surface Preparation.

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