

An ACI Standard

Multi-Component Epoxy Adhesive for Bonding to Concrete—Specification

Reported by ACI Committee 548

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Multi-Component Epoxy Adhesive for Bonding to Concrete—Specification

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This Specification describes bonding fresh concrete, hardened concrete, steel, and other materials as covered in Section 2.3 to hardened concrete with a multi-component epoxy adhesive as defined for this purpose in ASTM C881/C881M. Included are controls for adhesive labeling; storage; handling; surface evaluation and preparation; mixing and application; and inspection, safety, quality control, and testing.

Keywords: adhesive; bond; construction; epoxy; epoxy resin; fresh concrete; quality control; repair; safety; surface.

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ACI SPEC-548.13-21 (SI Units) supersedes ACI 548.13M-14 and was adopted August 27, 2021.

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SECTION 1—GENERAL REQUIREMENTS

1.1—Scope

1.1.1 This Specification covers the use of multi-component epoxy adhesives, meeting the requirements of **ASTM C881/C881M** for bonding to hardened concrete as specified in **2.1.1** and **3.1.1**.

1.1.2 This Specification is incorporated by Contract Documents and provides requirements for the Contractor.

1.1.3 This Specification governs for construction within its scope, except project-specific Contract Documents govern if there is a conflict.

1.1.4 This Specification governs if there is a conflict with reference material and testing standards.

1.1.5 Contractor is permitted to submit written alternatives to any provision in this Specification for consideration.

1.1.6 Do not use this Specification in conjunction with ACI 301 or ACI 350.5 unless Contract Documents state that this Specification governs for Work covered by **1.1.1**.

1.1.7 Ignore provisions of this Specification that are not applicable to the Work.

1.1.8 Values in this Specification are stated in SI units. A companion specification in inch-pound units is also available.

1.1.9 The Notes to Specifier are not part of this Specification.

1.2—Interpretation

1.2.1 Unless otherwise explicitly stated, this Specification shall be interpreted using the following principles.

1.2.1.1 Interpret this Specification consistent with the plain meaning of the words and terms used.

1.2.1.2 Definitions provided in this Specification govern over the definitions of the same or similar words or terms found elsewhere.

1.2.1.3 Whenever possible, interpret this Specification so that its provisions are in harmony and do not conflict.

1.2.1.4 Headings are part of this Specification and are intended to identify the scope of the provisions or sections that follow. If there is a difference in meaning or implication between the text of a provision and a heading, the meaning in the text governs.

1.2.1.5 Where a provision of this Specification involves two or more items, conditions, requirements, or events connected by the conjunctions “and” or “or,” interpret the conjunction as follows:

“and” indicates that all the connected items, conditions, requirements, or events apply.

“or” indicates that the connected items, conditions, requirements, or events apply singularly.

1.2.1.6 The use of the verbs “may” or “will” indicates that the Specification provision is for information to the Contractor.

1.2.1.7 The phrase “as indicated in Contract Documents” means the Specifier included the provision requirements in the Contract Documents.

1.2.1.8 The phrase “unless otherwise specified” means the Specifier may have included an alternative to the default requirement in the Contract Documents.

1.2.1.9 The phrase “if specified” means the Specifier may have included a requirement in the Contract Documents for which there is no default requirement in this Specification.

1.2.1.10 Unless otherwise stated, the SI system of units is applicable to combined standards referenced in this Specification.

1.3—Definitions

The following definitions shall govern in this Specification.

accepted—determined by the Architect/Engineer to be in compliance with Contract Documents.

Architect/Engineer—the architect, engineer, architectural firm, or engineering firm issuing Contract Documents or administering the Work under Contract Documents, or both.

bond interface—the layer of adhesive that connects two adjacent materials.

continuous metering and mixing—the process of providing accurately measured quantities of ingredients into a blending chamber and, as a result, generating a stream of properly blended product at the exit.

Contract Documents—set of documents that form the basis of a contractual relationship between an Owner and constructor or design-builder. These documents are defined by the contractual agreement, and contain contract forms, contraction conditions, specifications, drawings, addenda, and contract changes.

Contractor—the person, firm, or entity under contract for construction of Work.

drawings—graphic representations that detail requirements for Work and may include written notes.

epoxy—a thermosetting polymer that is the reaction product of epoxy resin and a hardener.

fresh concrete—concrete that possesses enough of its original workability so that it can be placed and consolidated by the intended methods.

Owner—the corporation, association, partnership, individual, public body, or authority for whom Work is constructed.

specifications—the written document that details requirements for the Work.

submit—provide to Architect/Engineer for review.

submittal—document or material provided to Architect/Engineer for review and acceptance.

Work—the entire construction or separately identifiable parts thereof required to be furnished under Contract Documents.