

# Trowel Marks on Concrete Floors

## ASCC Position Statement #4

**S**ome specifications require concrete contractors to produce floor surfaces that are free of trowel marks. However, the specifications don't define the term "trowel marks."

Both ACI 301-99, "Specifications for Structural Concrete for Buildings," and ACI 302.1R-96, "Guide for Concrete Floor and Slab Construction," use the term "trowel marks" (Section 5.3.4.2c in ACI 301 and Section 11.9 in ACI 302.1R). Neither document defines the term, nor is the meaning clear from the context in which the term is used. ACI 116R-00, "Cement and Concrete Terminology," doesn't include a definition of trowel marks.

Because differing interpretations of this term can cause problems with acceptance of the finished floor, the American Society of Concrete Contractors (ASCC) seeks to establish a consensus definition for trowel marks that is applicable during both the bidding phase and execution/acceptance of the finished floor. Establishing a common industry definition provides all parties with a fair and equitable ability to judge the acceptability of a finished floor surface.

To provide a clear and specific understanding, this position statement includes a definition and photo for two terms: "trowel pattern" and "trowel marks."

**Trowel pattern:** A concrete surface feature (Fig. 1)—produced by troweling—that can be seen but can't be felt (has no vertical profile).

**Trowel marks:** Concrete surface features (Fig. 2)—produced by troweling—that can be seen and felt (have a vertical profile).

ASCC concrete contractors will remove trowel marks from concrete surfaces by rubbing, grinding, or other appropriate methods. A trowel



Fig. 1: Trowel pattern



Fig. 2: Trowel marks

pattern is not considered to be a surface defect and will not be removed from concrete floors.

If trowel patterns are unacceptable, the specifier must make a specific requirement in the specification.

If you have any questions, contact your ASCC concrete contractor or the ASCC Technical Hotline at (800) 331-0668.

**Update:** Reference to "trowel marks" has been deleted from ACI 301-10. ACI 302.1R-04 contains the same sentence from ACI 302.1R-96: "Similarly, if supervisors insist that a floor be finished by a certain time, whether it is ready or not, blisters, trowel marks, and poor surfaces can result." This statement was in Section 11.7 of both documents, but doesn't help to define the term "trowel marks."

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