



# Concrete Structures – General – Construction – Concrete Surface Textures

## Revision and Approval

Revision	Date	Nature of Changes	Approved By
0	10-15-2021	Original Issue	Richard Foley

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Contact [SC Technical Team F](#) for questions

## Background

This process establishes Structure Construction (SC) responsibilities and procedures for concrete surface textures, including submittal review and authorization, test panel authorization, and construction.

Concrete surface textures are generally viewed as an architectural improvement to a structure. While concrete surface textures are generally not structural in nature, they are usually included at the request of, funded by, and therefore always important to project stakeholders.

Prior to reviewing this Bridge Construction Memo (BCM), it is essential to review the [Contract Specifications](#), Section 51-1.03G, *Concrete Structures – General – Construction – Concrete Surface Textures*, that this BCM is based on as identified in the title block above. The information in the contract specifications typically will not be repeated in the text of this BCM.

## Process Inputs

1. Contract work requiring architectural treatment including:
  - a. Fracture Rip Texture
  - b. Ripped Texture
  - c. Other architectural treatments

2. Test panels for each type of concrete surface textures

## **Procedure**

1. All work associated with this process should be charged to [Project Direct-Construction](#), unless otherwise directed.
2. Inspection of field work for this process is:
  - a. [Continuous](#) inspection for concrete placement.
  - b. [Intermittent](#) for inspection of finished concrete surface texture.
3. Before installing concrete form liners:
  - a. Discuss the following concrete surface texture requirements with the Contractor:
    - i. The architectural treatment types specified. Concrete surface texture may be fractured rib texture as specified in the *Standard Specifications* or fractured rip texture, ripped texture, scored texture, chipped texture, and others as specified in the *Special Provisions*.
    - ii. The requirements for test panel(s) including the size of the test panel. See *Contract Specifications*, Section 51-1.01D(2)(c), *Concrete Structures – General – Quality Assurance – Quality Control – Test Panels*.
    - iii. Requirements and expectations for Class 1 surface finish of concrete. Refer to [BCM 51-1.03F\(1-4\)](#), *Concrete Structures – General – Finishing Concrete*.
    - iv. Methods for achieving acceptable concrete finish.
  - b. Coordinate the review of the contractor's work plan to achieve concrete surface texture specified with Headquarters (HQ)/District Architect for concurrences. This review includes form liners, methods of obtaining the ripped textures of surfaces, and other architecture features specified.
  - c. Coordinate construction of test panel(s) with the Contractor. Note the method and conditions of constructing the test panels. This helps the production surfaces match the authorized test panel surfaces.
  - d. Coordinate with HQ/District Architect and other interested parties for reviewing the test panel(s).
  - e. Authorize the test panel(s) when all interested parties concur with the resulting test panel concrete surface texture.
  - f. Confirm placement of architecture treatment on forms meets contract requirements and complies with all manufacturer instructions.

- g. Prior to forming each alignment (e.g., patterned wall alignment), work with the Contractor to verify architecture treatment layouts.
4. During concrete placement:
  - a. Refer to [BCM 51-1.03\(C-D\)](#), *Concrete Structures – General – Construction – Preparation and Placing Concrete*, for guidance.
5. After concrete placement:
  - a. Verify specified concrete surface texture has been attained as follows:
    - i. Confirm form liners released properly without damage to the concrete surface texture.
    - ii. Verify repair of damaged concrete surface textures complies with the repair plan. Refer to the [Concrete Technology Manual](#), Chapter 6, *Structure Concrete Repair and Rehabilitation*.
    - iii. Reject damaged form liners to prevent damaged forms from being reused for future concrete pours.
  - b. Verify that form liners are properly assembled and maintained in accordance with the manufacturer’s instructions (e.g., form release agents, cleaning agent used to dissolve form release agents after every 5<sup>th</sup> use, adhesives, etc.).
  - c. Document all inspection, construction, and quality of assurance activities pertinent to this BCM, in the Daily Reports, per [BCM C-7](#), *Daily and Weekly Reports*.
  - d. After all work associated with concrete surface textures is complete and found acceptable, the test panel can be discarded.
6. File all test results and Daily Reports in the appropriate category in the project records as specified in the *Construction Manual*, [Section 5-1.02](#), *Contract Administration – Project Records and Reports – Organization of Project Documents*.

## **Process Outputs**

1. Authorized test panel(s)
2. Finished concrete surface textures

## **Attachments**

None