

**TREATMENT OF ROCK SURFACES**

1. APPLICABILITY

Construction Specification 63 is applicable to the treatment of rock surfaces. Included are the cleaning and preparing of the surfaces and the furnishing and placing of the treatment materials. Where large volumes of concrete are involved or when desired, Construction Specification 32 may be used as an alternative to this specification. Treatment details would then be placed in construction details for Construction Specification 32.

2. MATERIAL SPECIFICATIONS

The following materials are complementary to Construction Specification 63:

- a. Portland Cement - Specification 531.
- b. Aggregate for Portland Cement Concrete - Specification 522
- c. Curing Compound - Specification 534

3. ITEMS TO BE INCLUDED IN CONTRACT SPECIFICATIONS AND DRAWINGS

- a. Plan view showing location and extent of surface treatment.
- b. Details for cleaning and treatment of cracks, and dental excavation.
- c. Type of treatment, including design of mix, slump, air content, and special placement methods when required.
- d. Type of cement.
- e. Type of admixtures, include necessary material specifications.
- f. Gradation of coarse aggregate.
- g. Slope limitations for the finished surface(s), as determined by site topography, plasticity of available fill material, embankment zoning and other design considerations, stated as follows: "Except for small local areas, the slope of the finished surface shall not be steeper than \_\_\_\_ horizontal to \_\_\_\_ vertical. Steeper surfaces extending not more than \_\_\_\_ feet, measured vertically, will be permitted."
- h. Method of Curing and Protection in Section 8.
- i. Method of Measurement and Payment in Section 9.

#### 4. DISCUSSION OF METHODS

##### a. Section 8, Curing and Protection

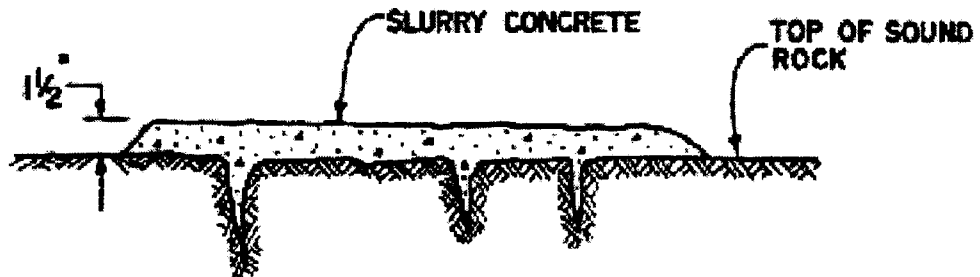
- (1) Method 1 Treatment of rock surfaces is intended to remove surface irregularities that could contribute to non-uniform installation of earth materials.
- (2) Method 2 Treatment of rock surfaces is an integral phase to insure blending and/or bonding of surface treatment and the proposed earth embankments. Water-tightness and the reduction of potential seepage paths are a major design consideration.

##### b. Section 9, Measurement and Payment

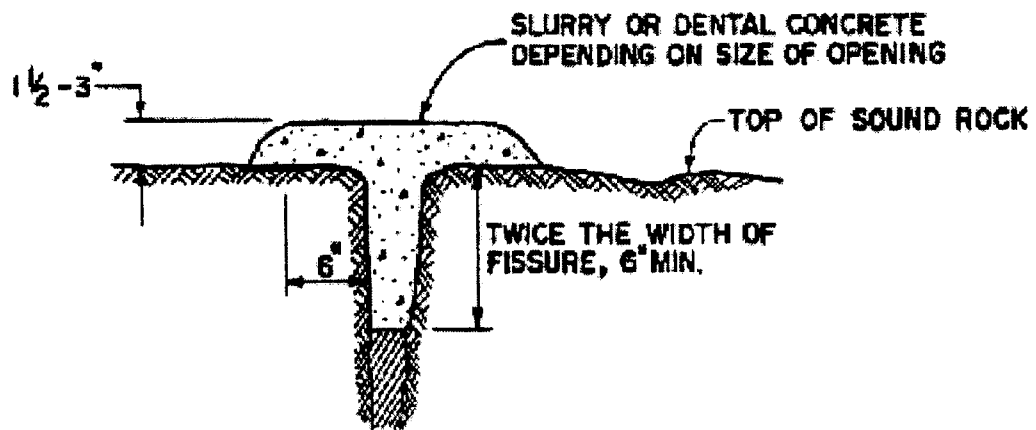
- (1) Method 1 is intended for use when the area to be treated is not fully definable and the full extent of treatment will need to be determined at the time of installation. This method applies to rock surfaces that have significant irregularities and are not readily determined prior to installation.
- (2) Method 2 is intended for use when the area to be treated is clearly definable and the extent of treatment has been determined. This method applies to rock surfaces that can be viewed and extent of treatment will not vary.

When specifications are prepared using electronic procedures and all but one method are deleted for use in the contract specification, delete "All Methods The following provisions apply to all methods of measurement and payment." and left justify the remaining text.

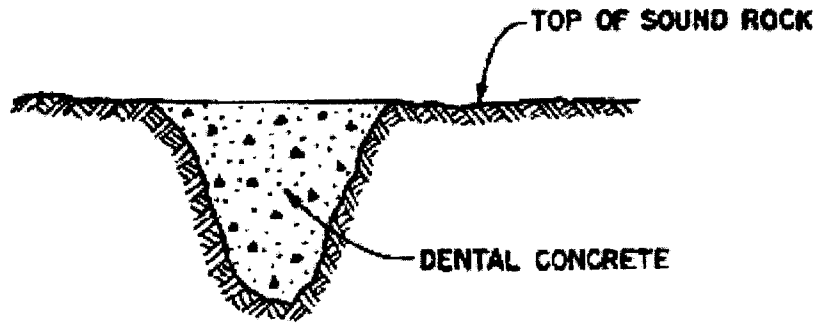
# TYPICAL TREATMENTS OF ROCK SURFACES



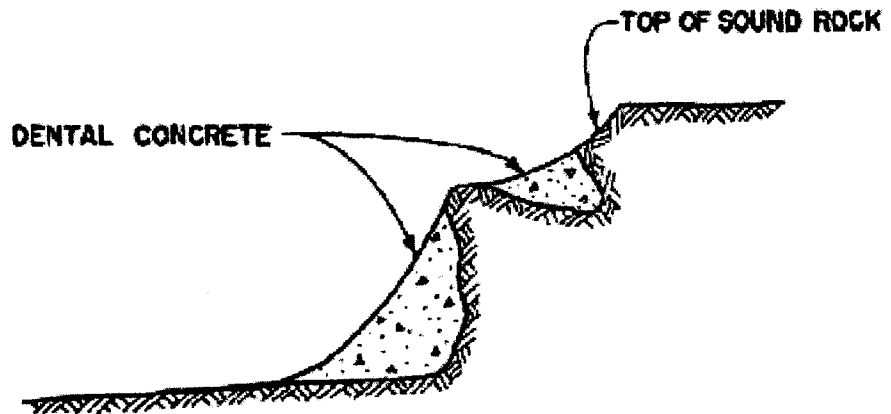
1.) THIN SURFACE CRACKS



2.) OPEN FISSURES



**3.) HOLES OR SOLUTION CHANNELS**



**4.) OVERHANGS AND IRREGULAR SURFACES**