

**ITEM 05583.10 M - REMOVAL OF STRUCTURAL CONCRETE -  
REPLACEMENT WITH  
SHOTCRETE, NO REINFORCEMENT BAR ENCASEMENT**  
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**DESCRIPTION:**

All provisions of Section 583 - Shotcrete shall apply with the following modifications:

**583-2 MATERIALS:**

All the provisions of §583-2, Materials, shall apply with the following additions:

Admixtures	711-08
Fly Ash	711-10
Microsilica	Approved List
Blended Cement	ASTM C 1157M TYPE GU

Blended Cement: A bagged cement containing pozzolans (fly ash or microsilica) may be used. Acceptance of this material will be based on the manufacturer's certification of conformance to ASTM C 1157M (GU).

Dry Mix Microsilica Admixture: A densified powder whose brand name appears on the Department's Approved List. Use only one brand for any structural element. Provide written certification from the manufacturer that the microsilica meets the requirements of the Materials Bureau and contains the following data: fineness, silica content, total chloride ion content and moisture content.

Wet Mix Microsilica Admixture: Either a densified powder or slurry whose brand name appears on the Department's Approved List. Use only one brand for any structural element. Provide written certification from the manufacturer that the microsilica meets the requirements of the Materials Bureau and contains the following data: silica content, total chloride ion content, solids content for slurry, and moisture content for densified powder. Agitate as necessary to prevent separation. The Contractor shall remove and replace, at no cost to the State, slurry that reaches a temperature less than 0° C.

**583-3 CONSTRUCTION DETAILS: :**

All the provisions of §583-3.01, Preparation of Surfaces, shall apply except for the last paragraph which begins with "Existing reinforcement..." and ends with "...Force Account Work" which shall be deleted and replaced with the following:

Existing reinforcement which, in the Engineer's opinion, has lost significant section shall be repaired in a manner satisfactory to the Engineer. Reinforcement, when required, will be paid for under its separate item.

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All the provisions of §583-3.02.B, Preparation of Materials, Dry Mix Process, shall apply with the following additions:

For approval of microsilica and fly ash additives, submit a mix design to the Director, Materials Bureau, at least 10 working days prior to use.

Dampen or dry the sand as needed.

All the provisions of §583-3.02.C, Preparation of Materials, Wet Mix Process, shall apply with the following additions:

Slump: 25 mm -75 mm  
Air Content: 6%-10%

For approval of microsilica and fly ash additives, submit a mix design to the Director, Materials Bureau, at least 10 working days prior to use.

**583-5 BASIS OF PAYMENT:**

All the provisions of §583-5 shall apply, except for the sentence within §583-5.02 which begins with "The unit price..." and ends with "... except that replacement of deteriorated reinforcement shall be paid for in accordance with §109-05" which shall be deleted and replaced with the following:

The unit price bid per square meter shall include the cost of furnishing all labor, materials, and equipment necessary to complete the work, except that replacement of deteriorated reinforcement shall be paid for under its separate item.