

**SECTION 03575**

**FLOWABLE CONTROLLED LOW STRENGTH MATERIAL (CLSM) FOR  
ABANDONED UNDERGROUND PIPE**

**PART 1 – GENERAL**

**1.01 SCOPE**

The work covered by this section includes furnishing all labor, equipment, and materials to pump CLSM into abandoned underground pipes as noted on the Drawings or as directed by the Engineer.

**PART 2 – PRODUCTS**

**2.01 MATERIALS FOR CLSM**

A. Materials used in this construction shall meet the following requirements:

Material	Specification
Portland Cement Type 1	AASHTO M85
Fly Ash, Class C or Class F	AASHTO M295
Water, Potable	

B. Fine aggregate shall be well graded from coarse to fine and when tested by means of laboratory sieves, shall conform to the following requirements:

Sieve Size	Total Percent Passing By Weight
¾-inch	100
No. 4	95-100
No. 16	50-90
No. 50	10-30
No. 200	0-10

**2.02 PROPORTIONING FOR CLSM**

A. CLSM shall be proportioned as follows:

<b>Material</b>	<b>Per Cubic Yard</b>
Portland Cement, Type 1	50 lbs. (maximum)
Fly Ash, Class C or F	250 lbs. (maximum)
Fine Aggregate	2,500 lbs.
Water	34 gals.
Cellflow Foaming Agent (or approved substitute)	3 oz. (added at the jobsite)

- B. The above proportions may be adjusted by the Engineer to obtain the consistency required for satisfactory pumping flow. Consistency shall be determined as follows:

Slump before adding foaming agent shall be 1.5-inches +/-.

Slump after adding foaming agent and mixing for at least 5 minutes and no more than 10 minutes shall be 7-inches to 9-inches.

## PART 3 – EXECUTION

### 3.01 GENERAL

CLSM shall be used where underground pipes are to be abandoned in place.

- A. Before adding foaming agent, check initial slump. If slump meets this specification, reverse the drum and slowly move the mix to the discharge end of the drum.
- B. Pour the foaming agent directly into the mix. Run the drum forward to blend the product into the mix.
- C. **DO NOT SPRAY THE FINS.** If the foaming agent remains on the fins, bring mix to discharge end of drum several times to clean the foaming agent off.
- D. Mix at full mixing speed for 5 minutes minimum. The mix should be very fluid after mixing.
- E. Only add water **AFTER** the foaming agent has mixed for a minimum of 5 minutes. Unnecessary water is detrimental to the performance of the mix.
- F. Minimum batch for foaming agent is 3 cubic yards.
- G. Pump pipes to capacity.

END OF DOCUMENT