

**ITEM 01501.12 M - GROUT FILLING**

**DESCRIPTION:**

Under this item, the Contractor shall furnish and place grout material at locations as shown on the Plans or as designated by the Engineer. The grout material shall fill all voids to the satisfaction of the Engineer.

**MATERIALS:**

The grout shall consist of a mixture of portland cement, mortar sand and water so proportioned that when mixed, it will produce a mortar capable of maintaining solids in suspension without appreciable water gain, yet capable of being pumped without difficulty and which is capable of penetrating and filling completely all voids encountered. Materials used in the grouting mix shall conform to the following requirements of the Standard Specifications:

Portland Cement	701-01
Mortar Sand	703-03
Water	712-01

The grout mix shall have a minimum cement content of 294 kilograms. Mortar sand and water quantities shall be adjusted to produce a cubic meter.

**CONSTRUCTION DETAILS:**

Grout material shall be batched from an approved automated batch plant as specified under Section 501-3.02 of the Standard Specifications.

The grout shall be continuously agitated in such a manner as to prevent the settlement of sand or other solids. Grout shall be placed by a grout pumping system. The use of a concrete pump shall not be allowed. Grouting will commence at one end of the pipe and be carried through to the other end of the pipe.

Once the action of placing grout in back of the pipe at one end of the run is commenced, it must be carried through to the other end. All grouting shall be done slowly and at a uniform rate to permit the grout to fill all voids. Under no condition shall the rate of pumping be increased suddenly. Agitation shall be continuous during any shutdown of the grouting procedure. When there is a lapse in the grouting operation in excess of 15 minutes, the grout shall be recirculated through the pump or through the mixer drum or agitator and pump. The lines shall be furnished with clean water if required. In no case shall grout be used after such time as appreciable stiffening of the grout mixture has occurred. Grout that cannot be placed, for any reason, within the 1-1/2 hour period after mixing, shall be wasted.

**METHOD OF MEASUREMENT:**

Grout filling will be measured by the number of cubic meters, based on truck delivery tickets, used to complete the work to the satisfaction of the Engineer. Deductions will be made for any waste as determined by the Engineer.

**BASIS OF PAYMENT:**

The unit price bid per cubic meter shall include the cost of furnishing all labor, materials and equipment including any excavation, backfill, form work and plugging of existing pipes necessary to complete the work.