

*San Antonio Water System Standard Specifications for Construction*

**ITEM NO. 300  
CONCRETE (NATURAL AGGREGATE)**

**300.1 DESCRIPTION:** This item shall govern the material used; storing and handling of materials; and the proportioning, mixing and transportation of concrete for all concrete construction.

This specification does not cover the placement, consolidation, curing, or protection of the concrete.

**300.2 MATERIAL:** The concrete shall be composed of Portland Cement, mineral filler, if necessary, natural aggregates (fine and coarse), and water, proportioned and mixed as hereinafter provided in these specifications. Concrete shall meet all the requirements as set forth in ASTM C-94.

**300.3 CLASSIFICATIONS AND PROPORTIONS:** The minimum cement content, maximum allowable water content, and maximum slump of the various classes of concrete shall conform to Table 1.

**300.4 MEASUREMENT:** The quantities of concrete of the various classifications which constitute the completed and accepted structure will be measured by the cubic yard in place. Only accepted work will be included, and the dimensions used will be those shown on the plans or ordered in writing by the Engineer. No deductions in measurement will be made for paneling less than 3 inches in width, and by 1 inch in depth, for chambers less than 2 inches, for embedded reinforcing steel, or for embedded portions of structural steel members.

**300.5 PAYMENT:** The concrete quantities, measured as provided above, will be paid for at the contract unit prices bid per cubic yard for the various classifications of concrete shown, which prices shall be full compensation for furnishing, hauling and mixing all concrete materials; placing, curing, and finishing all concrete; all grouting and pointing; furnishing and placing all drains and expansion joints, except as hereinafter provided; furnishing and placing metal flashing strips; and for all forms and false work, labor, tools, equipment, and incidentals necessary to complete the work.

The above provisions for payment shall not be interpreted to provide payment for concrete in railings, piping, concrete culvert pipe, precast prestressed concrete units, or other concrete items for which provision is otherwise made in the contract.

**San Antonio Water System Standard Specifications for Construction**

The above provisions for payment for drains and expansion joints shall not be interpreted to provide payment for cast iron or structural steel shapes used in drains; for structural steel, cast iron or cast steel bearing plates; or for steel members used in armoring roadway joints. Payment for these materials is provided for in Item No. 302, "Metal for Structures."

No direct measurement or payment will be made for Concrete Class "G," but shall be considered subsidiary to the particular items required by the plans and the contract.

<b>Table 1</b>				
<b>Class</b>	<b>Minimum compressive strength @ 28 days psi [Mpa]</b>	<b>Maximum water/cement ratio</b>	<b>Slump range inches</b>	<b>Min.-max. sacks cement per cubic yard</b>
A	3,000 (20)	7	2-5	5
B	2,500 (17)	8	2-5	4.5
C	2,000 (14)	9	1-4	4
D	1,000 (6)	11	1-4	2
G	(as specified on plans)	5.5	2-3	6.0-8.0