

**ITEM 10608.9301 M - EXPOSED AGGREGATE COLOR TINTED UNREINFORCED CONCRETE SIDEWALKS (GRADING NOT INCLUDED)**

**DESCRIPTION**

The work shall consist of the construction of Exposed Aggregate Color Tinted Unreinforced Concrete Sidewalks as shown on the plans.

**MATERIALS**

The material requirements of Section 608-2.01 shall apply to all new Exposed Aggregate Color Tinted Unreinforced Concrete Sidewalk with the following exceptions:

- A. Coarse Aggregate – Coarse Aggregate shall meet the requirements of Section 703-02, Coarse Aggregate except that it shall be Long Island Natural Tan Beige Pea Gravel, water worn, clean, hard and round meeting ASTM D-1863 general characteristics and will adhere to the gradation requirements of Type CA 1 as defined in table 501-2.
- B. Fine Aggregate – Fine aggregate shall meet the requirements of Section 703-07, Concrete Sand except that Concrete Sand shall be Long Island Natural.
- C. Coloring Agent – Concrete coloring agent shall be:

Chromix Coloring Admixture, color mix C-12 (Mesa Beige), manufactured by L.M. Scofield Company, 999 Clifton Avenue, Clifton, NJ 07013, telephone (201) 777-7255, or,

QC Integral Color, color to be Mesa Beige, manufactured by QC Construction Products, P.O. Box 599, Madera CA 93639, telephone (800) 453-8213, or,

Davis Colors # 5447 (Miami Buff), manufactured by Specco Industries, Inc., 13087 Main Street, Lemont, Illinois 60439, telephone (630) 257-5060, or approved equal.

Coloring admixture shall be incorporated into the ready-mix concrete in according with manufacturer's instructions.

- D. Surface Retarder – The surface of Exposed Aggregate Color Tinted Unreinforced Concrete Sidewalk shall be treated, at the time of placement, with a clear water based concrete surface retarder to expose the surface aggregate. The brand name and manufacturer of the proposed surface retarder shall be submitted to the Engineer prior to construction of Exposed Aggregate Color Tinted Unreinforced Concrete Sidewalk for approval. The surface retarder shall be applied in accordance with the manufacturers instructions.
- E. Expansion Joints and Sealant - Expansion joints shall be 12.7mm in width and shall be filled with Premoulded Resilient Joint Filler conforming to the requirements of Section 705-07. Joints shall be filled with Premoulded Resilient Joint Filler to within 12.7mm of the sidewalk surface. The top 12.7mm of the joint shall be filled with a joint sealant. Joint sealant shall be a multipart, polyurethane, construction sealant. The construction sealant shall be chosen to match the color of the concrete. The brand name and manufacturer of the proposed construction sealant shall be submitted to the engineer prior to construction of Exposed Aggregate Color Tinted Unreinforced Concrete Sidewalk for approval. The construction sealant shall be installed in accordance with the manufacturers instructions.

**CONSTRUCTION DETAILS**

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The requirements of Subsection 608-3.01 shall apply to the construction of Exposed Aggregate Color Tinted Unreinforced Concrete Sidewalk with the following exceptions:

The sidewalk shall be constructed without wire fabric for concrete reinforcement. The surface of concrete sidewalks shall have an exposed aggregate finish. The exposed aggregate finish shall be achieved by applying a surface retarder during the curing process (see, Materials above). The concrete surface shall be scored at intervals of 1.5m but not tooled.

The location of the sidewalks shall be properly graded to conform with the sidewalk cross-section. The graded area shall be firm and dry before placing the concrete and all organic or unsuitable materials, existing curbs, sidewalks, and driveways shall be removed. Before any paving material is placed upon the fine grade, the fine grade shall be prepared to line and grade and compacted with an approved self-propelling roller weighing not less than 6.35 Mg. All hollows and depressions which develop under rolling shall be filled with acceptable material and shall again be rolled. This process of shaping, filling and rolling shall be repeated until no depressions develop.

The fine grade shall not be muddy or otherwise unsatisfactory when the pavement is placed upon it. If the fine grade becomes rutted or displaced, due to any cause whatsoever, the Contractor shall regrade same without additional payment.

Forms shall be made of substantial material with suitable metal dividing plates of sufficient strength to satisfactorily resist distortion when fastened together and secured in place. Forms and dividing plates shall be of a depth not less than that of the thickness of the concrete slab, be properly located with tops set to the designated sidewalk surface and left in place until the concrete is set.

Foundation shall be wetted immediately before concrete is placed. The concrete shall be placed within the forms and thoroughly tamped until the surface is at the finished grade.

The contractor is responsible for ordering sufficient concrete mix to fully complete each sidewalk slab section (expansion joint to expansion joint). Cold joints and/or interrupted pours will not be accepted.

The top surfaces shall be finished to true smooth planes by troweling and finally by wood floats. Each rectangular slab shall have all edges neatly rounded with proper tools. All control joints shall be evenly and crisply cut at the designated locations.

Apply retardant in the amount and in a manner in accordance with manufacturer's directions. Expose top layer of aggregate by removing set-retardant material after 8 -12 hours, as per manufacturer's directions, washing and brushing until the water runs clear and there is no noticeable cement film left on the aggregate. This procedure should expose the aggregate approximately 3mm in depth. If results are not satisfactory, a light muriatic acid wash may be required at the direction of the Engineer.

Minimum temperature required for pouring Exposed Aggregate Color Tinted Unreinforced Concrete Sidewalk shall be 10°C or as directed by the Engineer.

Protection and Curing: Pavement shall be carefully protected from the drying effects of the sun and wind, pedestrian and/or other traffic, or other cause, by means of suitable guards and coverings. Plastic sheeting, burlap, cotton mats, or liquid curing membranes are not recommended and if used they must be elevated at 0.6m from the pavement surface.

Before starting construction, the Contractor shall submit the following to the Engineer for approval prior to ordering of materials:

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1. Catalog cuts and manufacturer's application instructions for color admixture, chemical surface retardant and construction sealant.
2. A sample of the aggregate.
3. A sample of the sand.
4. Intended design mix by percentage.

The contractor shall prepare a 1.5m X 1.5m sample panel of typical Exposed Aggregate Color Tinted Unreinforced Concrete Sidewalk including expansion joint sealer, for the approval of the Engineer. As many test panels will be constructed as are necessary to achieve a sample panel that meets the satisfaction of the Engineer. Once an approved sample panel has been achieved, all previous disapproved sample panels will be immediately destroyed. The approved sample panel shall be clearly marked with the words, 'approved sample'. All work shall conform to the appearance of the approved sample panel to the satisfaction of the Engineer. The approved sample panel shall remain on site until all sidewalk work is complete, after which, the contractor shall dispose of the sample panel unless the sample panel is a part of the finished work.

**METHOD OF MEASUREMENT**

Concrete sidewalk will be measured as the number of cubic meters of Exposed Aggregate Color Tinted Unreinforced Concrete Sidewalk computed from payment lines shown on the plans.

**BASIS OF PAYMENT**

The unit price bid per cubic meter will include all excavation, preparation of subgrade, test panels and all other materials, equipment, and labor necessary to complete the work as called for on the plans and to the satisfaction of the Engineer.

No separate payment will be made for excavation or embankment above, below, or within the volume of sidewalk placed.

Payment at the unit price bid will be made after the concrete sidewalks and curing application have been properly placed and accepted by the Engineer.