

ITEM 409

STEEL H PILING

409.1 Description. This specification shall govern for the furnishing of steel piles of H-section. The piling shall be of the type and weight shown on the plans and shall be placed in accordance with the lines, grades and dimensions shown therein.

The lengths of piling to be driven shall be as shown on the plans or as necessary to obtain the required bearing resistance and required minimum penetration.

409.2 Materials.

A. All ferrous metals furnished for use under these specifications shall be manufactured by one of the following processes only:

1. Open-hearth
2. Basic Oxygen
3. Electric Furnace

B. Steel H piling shall conform to the requirements of ASTM Specification A36.

C. Structural steel for wales, cap and ballast stop shall conform to the requirements of ASTM Specification A588.

409.3 Storing & Handling. Materials shall be delivered to the jobsite free from dirt, loose scale and rust, oil or other foreign material.

H piling shall be stored above the surface of the ground on platforms, skids or other supports to prevent sagging. Piling shall be protected from mechanical damage and surface deterioration caused by exposure to conditions producing rust and corrosion. The methods of handling shall be such that no bending or warping occurs before and during placement.

409.4 Installation. Steel H piling shall be driven at the location and to the elevation shown on the plans or as designated by the Engineer. Piling shall be driven to within 0.5 feet of the founding elevation shown on the plans or to the required bearing. Steel H piling shall be driven in accordance with the Item, "Driving Steel Piling". The embankment at bridge ends shall be in place, thoroughly compacted and to grade prior to driving piling therein unless otherwise shown on the plans.

409.5 Cut-Offs, Splices & Build-Ups. All splices for steel H piling shall be in accordance with the details shown on the plans. If the required penetration or bearing resistance has not been obtained, spliced piling may be driven the additional depth required as soon as the splice is completed.

The Contractor may, at his expense, fabricate piling by welding together not more than three sections of piling, provided the distance between welds is not less than five feet.

After the pile has been driven to the approximate penetration and to the bearing resistance required, it shall be cut-off square at plan grade, or to the grade established by the Engineer. Where pile caps are specified, the end surfaces of the pile shall be made as smooth as practicable before the head is welded in place. The pile cap shall conform to the plan details.

If the head of the pile is appreciably distorted or otherwise damaged below cut-off level, the damaged portion shall be cut-off and an undamaged section spliced in its place at the contractor's expense. Any piling damaged during the course of construction shall be replaced at no additional cost to Harris County.

409.6 Field Welding. Welding of H piling, if required, shall be in accordance with the structural steel welding code AWS D1.1. Welding of splices shall be in accordance with the steel piling splice detail shown on the plans. Deposited material for welds of Steel H Piling shall have a similar atmospheric corrosion resistance as the Steel H Piling.

409.7 Final Surface Treatment. Contractor shall brush blast visibly exposed surfaces of sheet piling to remove mill scale, oil, rust or other blemishes. Brush blast shall produce a uniform color and texture over the H pile surface.

Steel H Piling shall not be painted before driving. After driving, capping and placing collars all exposed portions shall be cleaned and painted, if required, in accordance with the Item "Painting & Protective Coating".

409.8 Measurement. Steel H Piling will be measured by the linear foot of acceptable piling in place after all cut-offs and build-ups have been made. A splice made necessary by driving beyond the authorized pile length to obtain the required bearing will be measured as one splice. Each additional splice required for build-up will be measured as one splice, provided the distance between splice points is not less than 10 feet. Cut-off will not be measured for payment. No more than two splices per piling will be permitted.

Where a reinforced tip is ordered by the Engineer, it shall be measured as one pile tip.

For piling specified to be driven to a "minimum penetration", no measurement will be made on that portion driven below the elevation at which the penetration and bearing requirements were first obtained.

409.9 Payment. Steel H piling will be paid for at the unit price bid per linear foot of "Steel H Piling", of the specified size and weight.

No direct payment will be made for cut-offs, pile caps, painting or for excavation and backfill required by the placing or painting of portions of piling below the ground line. Payment for all work and materials required by these items shall be included in the unit price bid per linear foot of "Steel H Piling".

Payment for the work and materials (exclusive of additional length of piling) required in making each authorized splice will be made at a price equal to three times the unit price bid per linear foot of "Steel H Piling" of the size and weight on which the splice is made.

Payment for the work and materials required for each reinforced tip ordered by the Engineer will be made at a price equal to two times the unit price per linear foot for "Steel H Piling", of the size and weight on which the tip is added.

The foregoing shall be full compensation for furnishing all materials, tools, labor, equipment, driving, jetting, plot holes, alignment holes, and incidentals necessary to complete the work.

There are line code(s), description(s), and unit(s) for this item.

END OF ITEM 409