

SECTION 05550**CASTINGS****PART 1 - GENERAL**

1.01 SCOPE OF WORK:

This section specifies castings for use in this project, including manhole frames and covers, and both water and sewer valve boxes and covers. It also establishes casting requirements, including tolerances, on all castings to be furnished and installed under this project.

1.02 RELATED SECTIONS:

A. Section 02536 - Precast Manholes & Covers

1.03 REFERENCES:

Unless otherwise indicated, all materials, workmanship and practices shall be in accordance with the current edition of the ASTM A48, "Gray Iron Castings", Class 35B.

Proof Loading: AASHTO M306 Loading

1.04 QUALIFICATIONS:

Manufacturer: Company specializing in manufacturing of products specified in this section with minimum five years documented experience. Non-domestic castings shall conform with all marking and other requirements contained in federal and state statutes.

PART 2 - PRODUCTS

2.01 GENERAL

- A. Shop drawings shall be furnished for all castings supplied and said drawings shall include certified dimensions and weights of all components. Dimensions shall conform with Department Standard Detail requirements.
- B. Finish casting dimensions shall be held to the following tolerances: Up to 4 inches, $\pm 1/32$ inch; 4 to 8 inches, $\pm 3/64$ inch; 8 to 12 inches, $\pm 1/16$ inch; 12 to 24 inches $\pm 1/8$ inch; above 24 inches, add the appropriate (minimum) value from those given above to $\pm 1/8$ inch. Note that this shall not affect the requirement that mating surfaces shall be machined and shall bear for their full length. Components shall be interchangeable with new and existing units without exceeding the tolerance add up specified above.
- C. Weight of castings supplied shall not vary more than ± 5 percent from the certified weight supplied by the Contractor as a part of his shop drawings.
- D. The foundry's name (and if not domestically produced, foundry's name and country) shall be cast in the bottom of each lid. Body and lid or frame and cover shall be manufactured by the

same foundry. Manufacture of the various components comprising one set, such as for example; a valve box and lid, by different manufacturers is expressly forbidden.

- E. Note that name cast into the bottom of the lid shall be the name of the actual foundry doing the casting. Name of an importing, purchasing or fabricating (from components) firm will not be acceptable. Methods of attaching this information other than casting are not acceptable.
- F. With the shop drawings of each component, submit the name, address and county of the foundry producing the component. Further, this foundry shall not be changed during the course of the Contract without written previous notification of and written permission from the Chief, Engineering Division, Miami-Dade Water and Sewer Department.
- G. Each shipment of castings provided by the Contractor shall be accompanied by a certification specifically stating that the materials of that shipment comply with all requirements of this Specification, specifically including dimensions and tolerances, materials of manufacture, weights of components, marking and foundry of origin. This certification shall be signed, dated and sealed by a registered professional engineer licensed to practice in state where the materials are cast or if not of domestic manufacture in the state where the supplying firm is located. One original of this certification shall be shipped with the materials and one original shall be sent to Supervisor, Specifications Unit, Miami-Dade Water and Sewer Department, P.O. Box 330316, Miami, Florida 33233-0316. Shipments sent without the certification as required above may not be accepted.
- H. Contractor's should be aware that it is the intent of the Department to periodically check materials supplied for conformance to these specifications to include materials testing, dimensions and tolerances, component weights, marking, finish and fit, and such other matters as are necessary to assure supply of products meeting our requirements. Random testing of materials supplied will be at Department expense if passed. Any retesting due to material not passing tests will be at the supplier's expense.

2.02 CASTINGS AND MATERIAL, GENERAL

- A. General materials used in the manufacture of the castings shall conform to ASTM Standard A48, "Gray Iron Castings", latest edition, for Class 35B iron. Manhole and valve box covers shall have a roadway type surface, machined mating surface and shall be non-rocking.
- B. Castings shall be furnished unpainted with shotblasted finish.
- C. Castings shall be as manufactured by U.S.F. Fabrication, Inc., Neenah Foundry, or approved equal.

2.03 MANHOLE FRAMES AND COVERS

Manhole frames and covers shall be Department Type "A" with roadway cover, U.S.F.F. No. 310 or approved equal. (See Miami Dade Water and Sewer Department's Standard Detail SS 4.0) The covers shall be cast labeled "Sanitary Sewer".

2.04 VALVE BOXES AND COVERS - SEWER

Valve boxes and covers for sewer applications shall be Department No. 53, in accordance with the Standard Details. Valve box covers shall be cast labeled with the letter "S"

2.05 VALVE BOXES AND COVERS - WATER

Valve boxes and covers for water applications shall be Department Nos. 2 and 3, in accordance with the Standard Details. Valve box covers shall be cast labeled with the letter "W"

PART 3 - EXECUTION

3.01 GENERAL INSTALLATION

- A. Castings with cracks or other defects, shall not be installed in the work.
- B. The use of sloped asphaltic concrete ramp rings will not be permitted.
- C. The Contractor shall provide all barricades, signs and flashing warning lights necessary to warn pedestrians and motorists of the construction along the entire route of the project.
- D. Frames and covers or valve boxes and covers shall be set accurately to grade to conform to the finished grade of the adjacent areas.
- E. Castings level without tipping, to correct elevations.
- F. Manhole frames and covers shall be with a minimum of 3 and a maximum of 5 courses of brick provided as a leveling course.
- G. It shall be the Contractor's responsibility to assure that castings are set to match existing and/or proposed finish paving grades.

END OF SECTION