

SECTION 02540 – FORGINGS, SHAFTING, CASTINGS, and NONFERROUS MATERIALS

(Follow all instructions and make all edits with “Track Changes” turned on. If there are no instructions [purple text] above a subsection, paragraph, sentence, or bullet, then include it in the Project. Delete all purple text before preparing the final document. All other modifications to this Section will require ODOT Technical Resource and State Specifications Engineer approval.)

Replace Section 02540 of the Standard Specifications except for the Section number and title with the following:

Description

02540.00 Scope - This Section includes the requirements for forgings, shafting, castings, and nonferrous materials except those used in potable water systems. For potable water system requirements, see Sections 02470, 02475, 02480, and 02490.

Materials

02540.10 Steel Forgings - Furnish steel forgings meeting the following:

Carbon steel forgings AASHTO M 102 (ASTM A668), Class C

Alloy steel forgings AASHTO M 102 (ASTM A668), Class G

02540.20 Steel Shafting - Furnish cold-finished steel shafting meeting the requirements of AASHTO M 169 (ASTM A108), Grades 1016 - 1030, inclusive.

02540.30 Steel Castings - Furnish steel castings meeting the following:

Carbon steel castings AASHTO M 103 (ASTM A27), Grade 70-36

Alloy steel castings AASHTO M 163 (ASTM A743), Grade CA-15

Furnish castings true to pattern in form and dimensions, free from pouring faults, sponginess, cracks, blow holes and other defects in positions affecting their strength and value for the service intended. Allowance is made in dimensions for reasonable pattern draft.

Furnish castings boldly filleted at angles and the arises are sharp and perfect.

Sandblast castings or otherwise effectively clean of scale and sand to present a smooth, clean and uniform surface.

02540.40 Iron Castings - Furnish iron castings meeting the following:

- **Gray Iron Castings** - AASHTO M 306.
- **Ductile Iron Castings** - AASHTO M 306. In addition to the specified test coupons, for castings weighing over 1,000 pounds, test specimens from parts integral with the castings, such as risers.

- **Malleable Iron Castings** - ASTM A47, Grade 32510.

Finish iron castings according to 02540.30.

Clean iron castings according to 02540.30.

02540.50 Nonferrous Materials - Furnish nonferrous Materials meeting the following:

Bronze castings..... AASHTO M 107 (ASTM B22) Copper Alloy UNS No. C91100

Copper alloy plates AASHTO M 108 (ASTM B100) Copper Alloy UNS No. C51000

02540.60 Acceptance - Acceptance of forgings, shafting, castings, and nonferrous Materials is according to 00165.35 and this Section.