

Section 610.13 COUPLINGS, JOINTS, GASKETS AND FLANGES  
Proposed Revision; Case 11-03 – June 6, 2012  
Originally Submitted by City of Peoria

**[Current]**

Section 610.13 COUPLINGS, JOINTS, GASKETS AND FLANGES

- MAG 610

**610.13 COUPLINGS, JOINTS, GASKETS AND FLANGES:**

C) Bolts and Nuts:

- (1) For pipe 12 inches and smaller: Bolts and nuts for use in field connections or for connecting fittings shall be carbon steel equivalent to ASTM A307, Grade B, with cadmium plating in accordance with ASTM B-766, except that the minimum thickness of the plating shall be .00020 inches. Cadmium plated bolts shall have Class 2A threads and the nuts used with them shall have Class 2B threads. All bolt diameters shall normally be 1/8 inch smaller than the bolt hole diameter. High strength, heat treated cast iron tee-head bolts with hexagon nuts, all in accordance with the strength requirements of AWWA C-111, may be used in lieu of the cadmium plated bolts and nuts for jointing mechanical joint cast iron or ductile iron pipe and fittings only.
- (2) For pipes 16 inches and larger, all bolts and nuts on flanges for valves and flexible couplings shall be carbon steel equivalent to ASTM A307, Grade B. Bolt diameters shall normally be 1/8 inch smaller than the bolt hole diameters.

**[REVISED, DRAFT; 7/17/12]**

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**610.13 COUPLINGS, JOINTS, GASKETS AND FLANGES:**

(C) Bolts and Nuts:

- (1) ~~The minimum requirement for hexagon bolts, studs, and nuts to be used in underground field flanged connections or for connecting fittings shall be of the exact same material consisting of a carbon steel compliant with equivalent to ASTM A307, Grade A unless Grade B is specified, in accordance with the applicable requirements of AWWA C111. Bolts and studs shall have Class 2A thread tolerances with the corresponding nuts having Class 2B tolerance threads. Hexagon bolts, studs and nuts shall have a hot-dipped zinc coating in accordance with ASTM F2329. All bolt diameters shall normally be 1/8 inch smaller than the bolt hole diameter. The Engineer may specify a type Grade B material for higher strength if desired and depending on application. If otherwise specified, exceptions to Bolts, studs and nuts shall be zinc coated and may be unless made from 316 stainless steel per ASTM F593 or cadmium plated per ASTM B766. All bolts shall be hexagonal heads.~~

**Comment [rth1]:** Unclear phrase - What item is to be the same material as which item?

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**Comment [rth2]:** What constitutes equivalency? How equivalency is to be determined needs to be defined.

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**Comment [rth3]:** Identify which AWWA C111 requirements are applicable.

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(2) The minimum requirement for underground mechanical joint connections using T-head bolts shall meet the ~~applicable~~ requirements of AWWA C111 using a high strength low alloy steel manufactured for atmospheric corrosion resistance per ASTM A242.

Revise Section 505.6.3.3 (5) by deleting the cadmium option as indicated below:

(5) Galvanizing: All steel parts of strip seal assemblies shall be galvanized after fabrication, in accordance with the requirements of ASTM A123 and A153, unless ASTM A588 steel is used. Bolts shall be high strength, conforming to the requirements of ASTM A325M, with a protective coating of ~~cadmium or~~ zinc, followed by a chromate and baked organic coating conforming to the requirements of ASTM F1135, Grade 3, 5, 6, 7, or 8 and Color Code A.