# SPECIFICATIONS - DETAILED PROVISIONS Section 15089 - Nuts & Bolts

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## SECTION 15089 NUTS & BOLTS

#### PART 1 - GENERAL

#### 1.01 REQUIREMENT

Bolts and nuts for flanged fittings shall be bare steel conforming to SAE J429 Grade 5 or ASTM A449 medium carbon steel quenched and tempered meeting the following requirements, and shall have hex heads and lite-pattern hex nuts.

14" Through 1" diameter

85,000 p.s.i. proof strength 92,000 p.s.i. yield strength 120,000 p.s.i. tensile strength

Over 1" to 11/2" diameter

74,000 p.s.i. proof strength 81,000 p.s.i. yield strength 105,000 p.s.i. tensile strength

## 1.02 USE OF ZINC CAPS FOR BURIED PIPE

Each bolted fitting including couplings, flange adapters, restrained joints, etc. that have manufactured bolts and nuts shall have a minimum of 2 zinc caps anodes as specified below.

Bolt sizes and number of zinc caps:

through 1" diameter - 2 zinc caps over 1" diameter - 4 zinc caps

Weight of zinc caps:

Zinc caps to be 6 oz. weight.

Material reference:

Zinc caps shall be per ASTM B418-80 and Mil-A-18001J, and be manufactured by Mars, Reliance, or equal.

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