

ASTM A307

TECHNICAL SPECIFICATIONS

SCOPE

The ASTM A307 specification covers carbon steel bolts and studs ranging from 1/4 through 4 diameter. This is your everyday, run of the mill bolt specification often manufactured using A36 round bar. There are three grades A, B, and C* which denote tensile strength, configuration, and application. Refer to the Mechanical Properties Chart for the subtle strength differences within each grade.

A307 GRADES

A



Headed bolts, threaded rods and bent bolts intended for general applications.

B



Heavy hex bolts and studs intended for flanged joints in piping systems with cast iron flanges.

C*



Nonheaded anchor bolts, either bent or straight, intended for structural anchorage purposes. The end of a grade C anchor bolt intended to project from the concrete will be painted green for identification purposes. Permanent marking is a supplemental requirement. *As of August 2007, grade C has been replaced by specification F1554 grade 36. We will continue to supply grade C, if required by the project.

A307 MECHANICAL PROPERTIES

GRADE	TENSILE, KSI	YIELD, MIN, KSI	ELONG %, MIN
A	60 min	--	18
B	60 - 100	--	18
C*	58 - 80	36	23

A307 CHEMICAL PROPERTIES

ELEMENT	GRADE A	GRADE B
Carbon, max	0.29%	0.29%
Manganese, max	1.20%	1.20%
Phosphorus, max	0.04%	0.04%
Sulfur, max	0.15%	0.05%

A307 RECOMMENDED HARDWARE

NUTS

A307 GRADES A & C*

A307 GRADES B

1/4 - 1-1/2

1/4 - 1-1/2

1/4 - 1-1/2

WASHER

A563A Hex

A563A Heavy Hex

A563A Heavy Hex

F844