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## ASTM A449-04b Specification for Hex Cap Screws, Bolts, and Studs, Steel, Heat Treated, 120/105/90 ksi Minimum Tensile Strength, General Use

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### Abbreviation

ASTM A449-04b

### Valid from

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### Information provider

American Society of Testing and Materials

### Author

American Society for Testing and Materials

### Information type

ASTM Standard

### Format

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### Cited By

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### Description

This specification covers the chemical and mechanical requirements for two types of quenched and tempered steel bolts and studs for general applications where high strength is required.

The two types of bolts covered in this specification are:

- Type 1—Medium-carbon steel bolts and studs furnished in nominal diameters of 1/4 to 3 in., inclusive.
- Type 2—Low-carbon martensite or medium-carbon martensite steel bolts and studs furnished in nominal diameters of 1/4 to 1 in., inclusive.

The bolts and studs shall be Type 1, Type 2, or Type 1 or 2 at manufacturer's option, as specified by the purchaser. When a type is not specified, Type 1 shall be furnished. When elevated temperature applications are involved, Type 1 shall be specified by the purchaser on the order.

Suitable nuts are covered in Specification A 563. Unless otherwise specified, the grade and style of nut shall be as follows:

Nuts of other grades and styles having specified proof load stresses (Specification A 563, Table 3) greater than the specified grade and style of nut are suitable.

Unless otherwise specified, washers ordered with bolts shall be furnished to the requirements of Specification F 436.

The values stated in inch-pound units are to be regarded as the standard. The values given in parentheses are provided for information purposes only.

Terms used in this specification are defined in Terminology F 1789 unless otherwise defined herein.

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This document is CITED BY:

- [AS 3688:2005](#)

ASTM A449-04b is cited by AS 3688:2005 Water supply - Metallic fittings and end connectors

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