

## TECHNICAL DATA SHEET · FASTENERS

# Stud Bolts & Heavy Hex Nuts

ASTM A193-B7, B7M, B16, B8, B8M with A194 2H, 2HM, 8, 8M; plain, galvanised or PTFE coated.

### OEM MANUFACTURER

Stud bolts with two heavy hex nuts are the standard fastener for flanged joints in process piping. The alloy steel stud is tensioned to compress the gasket and hold the joint tight at pressure and temperature.

## Specification

|                       |                                                                                               |
|-----------------------|-----------------------------------------------------------------------------------------------|
| Product               | Fully threaded stud bolts with heavy hex nuts                                                 |
| Supply                | OEM manufacturer — made by Teshi Group, Howrah, India                                         |
| Dimensional standards | Studs: ASME B18.31.2, Nuts: ASME B18.2.2 heavy hex                                            |
| Thread                | UNC up to 1"; 8UN series above 1" (ASME B1.1, Class 2A / 2B). Metric coarse to ISO on request |
| Size range            | ½" to 4" diameter (M12 to M100); lengths to order                                             |
| Coatings              | Plain (black), zinc plated, hot-dip galvanised, PTFE / Xylan fluoropolymer                    |
| Also supplied         | Hex bolts, tie rods, washers, U-bolts and anchor bolts                                        |

## Materials

|                              |                                                        |
|------------------------------|--------------------------------------------------------|
| High-temperature alloy steel | ASTM A193 B7, ASTM A193 B7M, ASTM A193 B16             |
| Stainless steel              | ASTM A193 B8 Cl.1, ASTM A193 B8M Cl.1                  |
| Low-temperature alloy steel  | ASTM A320 L7                                           |
| Nuts                         | ASTM A194 2H, ASTM A194 2HM, ASTM A194 8, ASTM A194 8M |

## Manufacturing

- Raw material: heat-treated alloy or stainless steel bar from approved mills.
- Cutting to length, chamfering, and thread rolling or cutting.
- Nuts: hot or cold forged, tapped and heat treated.
- Coating as ordered, with post-plating baking for hydrogen embrittlement relief on high-strength grades.

## Inspection and testing

- Chemical analysis per heat; tensile and hardness tests per lot.
- Proof load test on nuts.
- Charpy impact test for A320 L7 at -101 °C.
- Thread gauging and dimensional inspection; coating thickness measurement when coated.

## Marking, documentation and packing

|               |                                                                                                                                                                                                                     |
|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Marking       | Grade symbol and manufacturer's mark on one end of each stud and on one face of each nut.                                                                                                                           |
| Documentation | Mill test certificate to EN 10204 3.1 (3.2 with third-party inspection on request), dimensional inspection report, heat-treatment record where applicable, and NDT reports as specified. IBR Form III-C on request. |
| Packing       | Packed in gunny bags or cartons inside wooden boxes, labelled with size, grade, quantity and heat number.                                                                                                           |

## Typical applications

- Flanged joints in process, steam and hydrocarbon piping
- Valve bonnets and equipment nozzles
- Sour service (B7M / 2HM)

## Ordering information

- Diameter, thread and length (or flange size, class and facing)
- Stud grade and nut grade
- Coating
- Quantity of sets
- Supplementary requirements

## Dimension charts

Stud bolt chart for ASME B16.5 flanges; ASME B16.5 Class 150 flange dimensions — [www.teshigroup.com/dimensional-standards/](http://www.teshigroup.com/dimensional-standards/)

Reference information compiled from the published standard for convenience. It does not replace the current edition of the governing standard, which takes precedence. Verify critical dimensions and properties before design, purchase or fabrication. Teshi Engineers & Sales Promoters (P) Ltd accepts no liability for errors or omissions.

### Teshi Group

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