



# Standard Parts

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## HEX HEAD BOLTS METRIC SERIES 'THREADED TO THE HEAD'

### GENERAL SPECIFICATIONS

**GENERAL:** This specification contains the essentials of the following standards:

International Organization for Standardization: ISO 4017 (coarse thread)  
 International Organization for Standardization: ISO 8676 (fine thread)

Hexagon head bolts in this standard are the same as those covered by the hex head bolt standard (page BM-001) with the exception of "threading to the head". Dimensions from the hex head bolt standard shall apply to "thread to the head" bolts in this standard.

**PREFERRED PARTS POLICY:** Bolts "threaded to the head" are to be chosen using the following guidelines to reduce variety of parts and assure maximum availability, interchangeability and cost savings.

Material and Finish: Class 8.8 Zinc Dichromate (ZND)  
 Class 10.9 Phosphate coated (PHC)

Thread: Metric Standard (Coarse) Thread

Nominal Size and Length Incrementation:

Dimensions in millimetres

Lengths	Nominal Diameters								
	M6	M8	M10	M12	M16	M20	M24	M30	M36
12	X								
16	X	X							
20	X	X	X						
25	X	X	X	X					
30	X	X	X	X					
35	X	X	X	X	X				
40	X	X	X	X	X	X			
45	X	X	X	X	X	X	X	X	X
50	X	X	X	X	X	X	X	X	X
60	X	X	X	X	X	X	X	X	X
70		X	X	X	X	X	X	X	X
80		X	X	X	X	X	X	X	X
90			X	X	X	X	X	X	X
100			X	X	X	X	X	X	X

2 mm increments under 12 mm

**NOTE:** For bolts not "threaded to head" see BM-001 thru BM-009.

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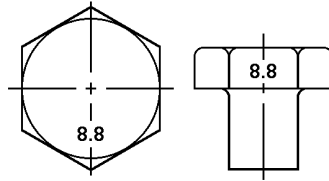
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## HEX HEAD BOLTS METRIC SERIES 'THREADED TO THE HEAD'

**THREADS:** Thread form, diameters, and associated pitches are in accordance with ISO Recommendations. Threads shall be made to the tolerances of the medium class of fit (6g - external threads) for plated or unplated bolts as shown in ISO 965/II, General Purpose Metric Screw Threads. The threads after plating must not exceed the basic size which is the maximum material condition (minimum size) of the internal thread.

**UNTHREADED LENGTH UNDER THE HEAD:** The maximum unthreaded length under the head shall not exceed three times the thread pitch.

**BOLT IDENTIFICATION:** For hex bolts with nominal diameters of 5 mm and greater, the property class symbol must be marked per ISO 898/1.



**MATERIAL:** Classes 8.8 and 10

**FINISHES:** Bolts shall be furnished plain (PLN), plated or coated in accordance with Case Engineering Materials Specification:

- Phosphate Coating (PHC) - MS 91
- Zinc Dichromate (ZND) - MS 201
- Black Zinc (BZN) - MS 203
- Black Teflon (PTF) - MS 61
- Dorrtech (DOR) - A-011 Standard Parts Book
- Electro Polyseal (POL) - A-011 Standard Parts Book

**WORKMANSHIP:** Bolts shall be free from burrs, seams, laps, loose scale, irregular surfaces, and any defects affecting their serviceability. Surface discontinuities to meet limits per ISO 6157-1.

**NOTE:** *It is common practice in ISO standards to omit thread pitch from the product size designation when screw threads are the metric coarse thread series, e.g., M10 is M10 x 1.5.*