

ISO 4016

Hexagon head bolts - Product grade C



Standard	ISO 4016		
Product Type	This document specifies the characteristics of hexagon head bolts, in steel, with metric coarse pitch threads M5 to M64, and with product grade C. If in certain cases other specifications are requested, property classes can be selected from ISO 898-1 and dimensional options from ISO 888 or ISO 4753.		
Material	Carbon Steel		
Property Class	4.6, 4.8		
Surface Finish	Zinc Plated, Hot Dip Galvanized, Dacromet, Blackened, Phosphate, Plain		
Size Range	M5 - M64	Length Range	6-300 mm
Thread	ISO metric coarse pitch		

BASIS OF SPECIFICATION

WHICH STANDARD GOVERNS WHAT

Dimensions to	ISO 4016:2022
Carbon steel / Alloy steel mechanical properties to	ISO 898-1:2013
Stainless steel mechanical properties to	ISO 3506-1:2020
Product grade	C
Length tolerance	to be agreed
Thread length	to be agreed
Minimum usable thread length	to be agreed

MECHANICAL PROPERTIES

REQUIRED VALUES PER ISO 898-1

Class	Rm min.	Yield requirement	Elongation requirement	Hardness	Source
4.6	400 MPa	ReL min. 240 MPa	A min. 22 %	120 - 220 HV	ISO 898-1
4.8	420 MPa	Rpf min. 340 MPa (not a test value)	Af min. 0.24	130 - 220 HV	ISO 898-1

DIMENSIONAL DATA - SIZES WE SUPPLY

ALL DIMENSIONS PER THE STANDARD

d Diameter - mm	P Thread Pitch - mm	s (max) Width Across Flats - mm	e (min) Width Across Corners - mm	k Nominal Head Height - mm	b (l ≤ 125) Thread Length - mm	b (125 < l ≤ 200) Thread Length - mm	b (l > 200) Thread Length - mm
M6	1	10	10.89	4	18	-	-
M8	1.25	13	14.2	5.3	22	-	-
M10	1.5	16	17.59	6.4	26	-	-
M12	1.75	18	19.85	7.5	30	-	-
M16	2	24	26.17	10	38	44	-
M20	2.5	30	32.95	12.5	46	52	-
M24	3	36	39.55	15	54	60	73

FURTHER SIZES IN THIS STANDARD

ALL DIMENSIONS PER THE STANDARD

Not held in stock. Available to order; minimum order quantity applies.

d Diameter - mm	P Thread Pitch - mm	s (max) Width Across Flats - mm	e (min) Width Across Corners - mm	k Nominal Head Height - mm	b (l ≤ 125) Thread Length - mm	b (125 < l ≤ 200) Thread Length - mm	b (l > 200) Thread Length - mm
M5	0.8	8	8.63	3.5	16	-	-
M7	1	11	11.94	4.8	20	-	-
M14	2	21	22.78	8.8	34	40	-
M18	2.5	27	29.56	11.5	42	48	-
M22	2.5	34	37.29	14	50	56	69
M27	3	41	45.2	17	60	66	79
M30	3.5	46	50.85	18.7	66	72	85
M33	3.5	50	55.37	21	72	78	91
M36	4	55	60.79	22.5	-	84	97
M39	4	60	66.44	25	-	90	103
M42	4.5	65	71.3	26	-	96	109
M45	4.5	70	76.95	28	-	102	115
M48	5	75	82.6	30	-	108	121
M52	5	80	88.25	33	-	116	129
M56	5.5	85	93.56	35	-	-	137
M60	5.5	90	99.21	38	-	-	145
M64	6	95	104.86	40	-	-	153

MARKING
Steel — Required

What	Manufacturer identification mark and the property class symbol (Table 19), for example 8.8
Where	Preferably on the top of the head, embossed or indented; alternatively indented on the side of the head. On flanged products, on the flange
Sizes	d ≥ 5 mm
Clause	ISO 898-1:2013, 10.3.3.1 Hexagon and hexalobular head bolts and screws

Table 3 of ISO 4016:1999 lists Steel as the only material column, with property classes 3.6, 4.6 and 4.8 for d up to and including 39 mm, and by agreement above that. The table sets no marking of its own; mechanical properties are to ISO 898-1, whose marking rules therefore apply.

This standard is product grade C. Its footnote states that other property classes are in ISO 898-1, so the three listed classes are defaults rather than a closed list.

Finish is as processed. Electroplating requirements are in ISO 4042, non-electrolytically applied zinc flake coatings in ISO 10683; other finishes are agreed between customer and supplier.

Confirm the ordered property class before production.

INSPECTION DOCUMENTS WE CAN ISSUE

EN 10204 3.1 material certificate	Can be included when agreed in the order.
Dimensional inspection report	Can be provided for the agreed inspection scope.
Certificate of conformity	Can be issued against the confirmed order requirements.
Mechanical test report	Available when the required tests are agreed before production.
Chemical analysis report	Available when the material verification scope is agreed.
Coating inspection report	Can record the coating checks agreed for the order.

REFERENCES & NOTES

Note: Dimensional values follow the selected execution standard. Material properties and batch test results are included only when declared or supported by the applicable certificate or test report.

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