



उत्पाद मैनुअल
आई एस 1363 (PART 1):2023 के अनुसार
हेक्सागोन हेड बोल्ट, स्क्रू और नट उत्पाद ग्रेड 'सी' भाग 1 हेक्सागोन हेड बोल्ट
(आकार सीमा एम 5 से एम 64)
दस्तावेज संख्या – पी एम/आई एस 1363 (Part 1)/ 2/ दिसंबर 2023

भारतीय मानक ब्यूरो की स्कीम-I (अनुरूपता मूल्यांकन) विनियम, 2018 के तहत यह उत्पाद मैनुअल प्रमाणीकरण के प्रचालन में रीति और पारिश्रिता की सुसंगतता सुनिश्चित करने के लिए सभी क्षेत्रीय/शाखा कार्यालयों और लाइसेंसि द्वारा संदर्भ सामग्री के रूप में उपयोग किया जाएगा। बीआईएस प्रमाणीकरण लाइसेंस/ प्रमाणपत्र प्राप्त करने के इच्छुक भावी आवेदकों द्वारा भी इस दस्तावेज का उपयोग किया जा सकता है।

PRODUCT MANUAL FOR
Hexagon Head Bolts, Screws and Nuts of Product Grade 'C' Part 1
Hexagon Head Bolts (Size Range M5 to M64)
ACCORDING to
1363 (Part 1):2023
Document No.- PM/ IS 1363 (Part 1)/ 2/ December 2023

This Product Manual shall be used as reference material by all Regional/Branch Offices & licensees to ensure coherence of practice and transparency in operation of certification under Scheme-I of Bureau of Indian Standards (Conformity Assessment) Regulations, 2018 for various products. The document may also be used by prospective applicants desirous of obtaining BIS certification licence/certificate.

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**PRODUCT MANUAL FOR
HEXAGON HEAD BOLTS (SIZE RANGE M 5 TO M 64)
ACCORDING to IS 1363 (Part 1):2023**

This Product Manual shall be used as reference material by all Regional/Branch Offices & licensees to ensure coherence of practice and transparency in operation of certification under Scheme-I of Bureau of Indian Standards (Conformity Assessment) Regulations, 2018 for various products. The document may also be used by prospective applicants desirous of obtaining BIS certification licence/certificate.

1.	Product	:	IS 1363 (Part 1):2023
	Title	:	Hexagon Head Bolts, Screws and Nuts of Product Grade 'C' Part 1 Hexagon Head Bolts (Size Range M5 to M64)
	No. of Amendments	:	Nil
2.	Sampling Guidelines:		
a)	Raw material	:	-
b)	Grouping guidelines	:	Please refer ANNEX – A
c)	Sample Size	:	Six Bolts
3.	List of Test Equipment	:	Please refer ANNEX – B
4.	Scheme of Inspection and Testing	:	Please refer ANNEX – C
5.	Requirements which can be tested in a day :		
	i) Dimensions (<i>Clause 3</i>) ii) Thread, Mechanical Properties, Finish and/ or Coating and Tolerances (<i>Clause 4</i>)		
6.	Scope of the Licence :		
	Licence is granted to use Standard Mark as per IS 1363 (Part 1):2023 with the following scope:		
	Name of the product	Hexagon Head Bolts, Screws and Nuts of Product Grade 'C' Part 1 Hexagon Head Bolts	
	Thread Size Range	M5 to M64	
	Property Class	4.6/4.8/ as declared by manufacturer (see table 3 of IS 1367 (Part 3))	
	Surface Condition		

ANNEX A

Grouping Guidelines

1. Hexagon Head Bolts with thread size from M5 to upto and including M64 of product grade C are classified based on the following:
 - i. Thread Size Range – M5 to M64
 - ii. Property Class – 4.6 / 4.8 / as declared by the manufacturer (See table 3 of IS 1367 (Part 3))
 - iii. Surface Condition - As processed (no coating) / Electroplated coatings / Non-electrolytically applied zinc flake coatings / Hot dip galvanized coatings / Other finishes, coatings and/or additional requirements (as agreed between the purchaser and the supplier)
2. Considering the above, following grouping guidelines for GoL/ CSoL shall be followed:
 - (a) One sample each of lowest thread size and highest thread size of each Property Class shall be tested for all requirements in order to cover the complete range of thread sizes.
 - (b) Sample (of any size) of each surface condition shall be tested to cover that particular surface condition.
 - (c) If coated sample is tested for all requirements, corresponding uncoated thread sizes may also be covered.
 - (d) In addition to the samples of varieties drawn for independent testing as per the above guidelines, factory test reports of all other varieties intended to be covered in scope of license, shall also be submitted by the manufacturer.
3. The Scope of Licence may be restricted based on the Manufacturing and testing capabilities of the manufacturer.
4. During operation of licence, BOs shall ensure that all the property classes/ finish/thread sizes covered in the licence are tested in rotation, to the extent possible.

ANNEX - B**List of Test Equipment****Major test equipment required to test as per the Indian Standard**

Sl. No.	Tests used in with Clause Reference	Test Equipment
1.	Dimensions as per <i>clause 4</i>	Micrometer Scale Dial Gauge
2.	Thread and Tolerances as per <i>Clause 5</i>	Go-No Go gauges Radius gauge, angle gauge Thread gauge
	Mechanical Properties as per <i>Clause 5</i>	UTM Hardness Tester Impact Tester Optical Microscope Spectrometer Profile Projector
	Finish - Coating as per <i>Clause 5</i>	Coat meter Salt spray tester with heater and temperature controller Stop watch / Timer Sulfur dioxide

The above list is indicative only and may not be treated as exhaustive.

ANNEX - C

1. **LABORATORY** - A laboratory shall be maintained which shall be suitably equipped (as per the requirement given in column 2 of Table 1) and staffed, where different tests given in the specification shall be carried out in accordance with the methods given in the specification.

1.1 The manufacturer shall prepare a calibration plan for the test equipment.

2. **TEST RECORDS** – The manufacturer shall maintain test records for the tests carried out to establish conformity.

3. **LABELLING AND MARKING** – Hexagon Head Bolts may be marked as per CL. 6 of IS 1363 (Part 1):2023. The Standard Mark as given in the Schedule of the licence may also be marked on the Hexagon Head Bolts / packaging.

3.1 In addition to the above, the licence no. CM/L-and details of BIS website shall be marked on each packaging as follows: “For details of BIS certification please visit www.bis.gov.in”

4. **CONTROL UNIT** – Hexagon Head Bolts of same property class, surface condition and thread size manufactured in a day for each material under similar process condition from the same consignment of raw materials shall constitute a control unit.

5. **LEVELS OF CONTROL** - The tests as indicated in column 1 of [Table 1](#) and the levels of control in column 3 of [Table 1](#), shall be carried out on the whole production of the factory which is covered by this plan and appropriate records maintained in accordance with paragraph 2 above.

5.1 All the production which conforms to the Indian Standard and covered by the licence should be marked with Standard Mark.

6. **REJECTIONS** – Disposal of non-conforming product shall be done in such a way so as to ensure that there is no violation of provisions of BIS Act, 2016.

TABLE 1

(1)				(2)	(3)		
Test Details				Test equipment requirement	Levels of Control		
Cl.	Requirement	Test Methods		R: required (or)S: Sub- contracting permitted	No. of Sample	Frequency	Remarks
		Clause	Reference				
4	Dimensions	3	IS 1363 (Part 1)	R	Firm to have adequate in-process controls to check compliance of this parameter as per the tolerances given in the Indian Standard. However, appropriate records shall be maintained by the manufacturer for evidence of conformity		
5	Material	Table 2	IS 1367 (Part 1) / ISO 8992	S	One	Each consignment	No further testing is required, if accompanied with test certificate or ISI marked
	Thread		IS 14962 (Part 1) / ISO 965-1	R	Firm to have adequate in-process controls to check compliance of this parameter as per the tolerances given in the Indian Standard. However, appropriate records shall be maintained by the manufacturer for evidence of conformity		
	Tolerances		IS 1367 (Part 2) / ISO 4759 – 1	R			
	Mechanical Properties	Table 3	IS 1367 (Part 3) / ISO 898-1	R	03	Each Control Unit	
	SURFACE CONDITION (FINISH/ COATING)						
	Electroplating		ISO 4042	R	03	Each Control unit	
	Non - Electrolytically applied zinc flake coating		ISO 10683	R			
	Hot dip galvanized		ISO 10684	R			
6	Marking and labelling		ISO 898 -1	R	Firm to have adequate in-process controls to check compliance of this parameter as per the tolerances given in the Indian Standard. However, appropriate records shall be maintained by the manufacturer for evidence of conformity		

NOTE-1: Sub-contracting is permitted to a laboratory recognized by the Bureau or Government laboratories empanelled by the Bureau.

NOTE-2: Levels of control given in column 3 are only recommendatory in nature. The manufacturer may define the control unit/batch/lot and submit his own levels of control in column 3 with proper justification for approval by BO Head.