



उत्पाद मैनुअल
षटकोणी सॉक्रेट शीर्ष टोपी वाले पेंच
आई एस 2269:2006 के अनुसार

PRODUCT MANUAL FOR
HEXAGON SOCKET HEAD CAP SCREW
ACCORDING TO IS 2269: 2006

विभिन्न उत्पादों के लिए भारतीय मानक ब्यूरो) अनुरूपता मूल्यांकन (विनियम, 2018 की योजना -I के तहत प्रमाणन के संचालन में एकरूपता और पारदर्शिता के लिए इस उत्पाद मैनुअल का उपयोग सभी क्षेत्रीय / शाखा कार्यालयों और लाइसेंसधारियों द्वारा संदर्भ सामग्री के रूप में किया जाएगा। दस्तावेज़ का उपयोग बीआईएस प्रमाणन प्राप्त करने के इच्छुक संभावित आवेदकों द्वारा भी किया जा सकता है।

This Product Manual shall be used as reference material by all Regional/Branch Offices & licensees to ensure uniformity 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.

1.	मानक संख्या IS No.	:	IS 2269: 2006
	शीर्षक Title	:	HEXAGON SOCKET HEAD CAP SCREW
	संशोधनों की संख्या No. of amendments	:	Nil
2.	नमूना दिशानिर्देश Sampling Guidelines		
a)	कच्चा माल Raw material	:	--
b)	समूहीकरण दिशानिर्देश Grouping Guidelines	:	Please refer to <i>Annex-A</i>
c)	नमूने का परिमाण Sample Quantity	:	Five pieces of coated and two pieces without coating
3.	परीक्षण उपकरणों की सूची List of Test Equipment	:	Please refer to <i>Annex-B</i>

4.	निरीक्षण और परीक्षण की स्कीम Scheme of Inspection and Testing	:	Please refer to <i>Annex-C</i>
5.	एक दिन में संभावित परीक्षण Possible tests in a day	:	i. Dimensions (Cl.3) ii. Threads (Cl.4) iii. Mechanical properties (Cl. 4) viz. Tensile test, Elongation, Yield stress, Proof load, Wedge load, Shear strength, Hardness, Head soundness, Decarburization & surface discontinuity
6.	लाइसेंस का दायरा /Scope of the Licence:		
	“Licence is granted to use Standard Mark as per IS 2269: 2006 with the following scope:		
	Name of the product	Hexagon Socket Head Cap Screw	
	Designation	(For guidance refer example given in Cl. 5 of IS 2269:2006)	
	Finish	(As per Cl. 4, Table 2 of IS 2269)	

भारतीय मानक ब्यूरो
BUREAU OF INDIAN STANDARDS
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 New Delhi – 110002

ANNEX-A
GROUPING GUIDELINES

1. Hexagon Socket Head Cap Screw is classified based on the following:
 - i. Pitch Thread (P)
 - ii. Nominal length of Screw (l)
 - iii. Property Class
 - iv. Finish - As processed / Plain / Electroplated coatings / Non-electrolytically applied zinc flake coatings
2. For considering GoL/CSoL, the following grouping guidelines shall be followed:
 - i. Sample(s) of lowest pitch thread and highest pitch thread of any nominal length of screw shall be tested to cover all the intermediate pitch threads including the pitch threads tested and all nominal lengths of screws.
 - ii. Samples from each property class shall be tested.
 - iii. Sample of each type of coated finish shall be tested. If coated finish samples are tested for all requirements, uncoated finish (as processed / plain) may also be considered.
3. The Firm shall declare the varieties of Hexagon Socket Head Cap Screw they intend to cover in the License. The Scope of License may be restricted based on the Manufacturing and testing capabilities of the manufacturer.
4. During operation of license, BOs shall ensure that all types of Hexagon Socket Head Cap Screw covered in the license are tested in rotation, to the extent possible.

ANNEX – B**LIST OF TEST EQUIPMENTS**
(INDICATIVE LIST, FOR GUIDANCE ONLY)

Sl. No	Tests used in with clause reference	Test equipment
1.	Dimension, Cl. 3, Table 1	Micrometer Scale Dial gauge Radius gauge
2.	Threads and tolerances, Cl. 4, Table 2	Go-No Go gauges Radius gauge, angle gauge Thread gauge
3.	Finish, Cl. 4, Table 2	Coat meter Salt spray tester with heater and temperature controller Stop watch / Timer Sulfurdioxide
4.	Mechanical Properties, Cl. 4, Table 2	UTM Hardness Tester Impact Tester Optical Microscope Spectrometer Profile Projector Heat treatment furnace Quenching furnace Torque wrenches
5.	Surface discontinuities, Cl. 4, Table 2	MPI Liquid penetrate or other NDT (Non-destructive test) Methods

ANNEX CSCHEME OF INSPECTION AND TESTING**1. QUALITY ASSURANCE PLAN**

1.1 It is expected that manufacturers (licensees/applicants) will implement a Quality Assurance Plan i.e. a plan of regular testing and in-process controls, designed to ensure that the product bearing the Standard Mark conforms to all requirements of the Indian Standard.

1.2 The manufacturers shall define a Quality Assurance Plan defining the control unit (i.e. lot/batch etc.) and the levels of control (i.e. the frequency and number of samples for conducting the different tests as per the Indian Standard) and submit the same to BIS Branch Office for information. The manufacturer shall comply with the same and maintain test records in accordance with para 2.4.

1.3 RECOMMENDED LEVELS OF CONTROL/CONTROL UNIT:

1.3.1 For the guidance of manufacturers, the recommended definition of control unit is: *Hexagon socket head cap screws of same designation and surface condition manufactured in a day under similar process condition from the same consignment of raw materials* shall constitute a control unit.

1.3.2 For the guidance of manufacturers in preparing the Quality Assurance Plan, recommended levels of control are given in **Table 1**.

1.3.3 The manufacturer shall ensure inspection and testing as per the Quality Assurance Plan submitted by them on the whole production of the factory which is covered by this plan. Alternatively, the manufacturer has the option of adherence to the quality plan as per levels of control recommended in column 3 of Table 1.

1.4 However, all manufacturers shall ensure compliance of their products to all the requirements of the Indian Standard.

2. ENSURING COMPLIANCE THROUGH TESTING- It is expected that manufacturers (licensees/applicants) will establish a suitably equipped and staffed in house laboratory (In house testing facility) for testing at least those parameters of the Indian Standard which require routine testing for ensuring quality of the product. This includes in-process controls as may be defined and put in place by the manufacturer and testing parameters/requirements which can only be performed in the factory.

2.1 For the guidance of manufacturers, Table 1 giving the recommended levels of control is given below. Column 2 of Table 1 indicates routine tests where test equipment is required in house as “R” or other tests which can be subcontracted as “S”. Subcontracting is permitted to BIS recognized/empanelled laboratory or any other laboratory having valid NABL accreditation as per IS/ISO/IEC 17025.

2.2 For MSME manufacturers, the requirement of maintaining a laboratory/in-house testing facility for routine tests (indicated as “R” in Column 2 of Table 1) is also optional.

2.2.1 MSME manufacturers may utilize common cluster based facilities as per guidelines for the utilization of cluster based test facilities by MSMEs or the provisions of Sharing of testing facilities or get testing done from BIS recognized/empaneled laboratory or any other laboratory having valid NABL accreditation as per IS/ISO/IEC 17025.

2.3 Large Scale manufacturers shall maintain an in-house laboratory equipped at least with test facilities for routine tests (indicated as “R” in Column 2 of Table 1), where different tests given in the specification shall be carried out in accordance with the method given in the specification. They shall also implement a calibration plan for the in-house test equipment.

2.3.1 Alternatively, in lieu of an in-house laboratory, large scale manufacturers can also utilize the provisions of Sharing of testing facilities as per the Guidelines for Grant of Licence available on BIS website www.bis.gov.in. (Under Conformity Assessment>Product Certification Process). Even for subcontracted tests, provisions for sharing of testing facilities can be utilized.

2.4 TEST RECORDS- The manufacturers maintaining an in-house laboratory or utilizing common cluster based facilities or shared test facilities shall maintain test records for the tests carried out to establish conformity. For the tests being subcontracted to BIS recognized/empanelled laboratory or any other laboratory having valid NABL accreditation as per IS/ISO/IEC 17025, test reports issued by the laboratories shall be available for inspection by BIS.

3. PACKING AND MARKING - The Standard Mark as given in the Schedule of the licence shall be incorporated legibly and indelibly on the packaging provided always that the material so marked conforms to each requirement of the specification.

3.1 Packing and Marking shall be done as per Annex - A of IS 2269: 2006.

3.2 **Additional Marking requirements:** The packaging shall also be marked with the following additional requirement on the individual product packaging.

- a) “For BIS certification details please visit www.bis.gov.in”
- b) Designation, Lot No., Name and Address of the Manufacturer.

4. HYGIENIC CONDITIONS (if applicable) – No Specific requirements mentioned in the standard and hence not applicable for this product.

5. REJECTION - All the production which conforms to the Indian Standard and covered under the scope of this licence shall be marked with the Standard Mark. 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
(ONLY FOR GUIDANCE PURPOSE)

(1)				(2)	(3)		
Test Details				Test equipment requirement	Levels of Control		
Cl.	Requirement	Test Methods		R: required (or) S: Sub-contracting permitted	No. of Samples	Frequency	Remarks
		Clause	Reference				
	Raw Materials						
4	Material (Chemical Composition)	Table 4	IS 2269	S	One	Each Consignment	No further testing is required, if accompanied with test certificate or ISI marked.
	Product Requirements						
3	Dimensions	3 (Table 1)	IS 2269	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		
4	General Requirements	3&4	IS 1367-1/ISO 8992	R			
	Thread requirements	5 5 4	IS 4218-2/ISO 261 IS 14962-2/ISO 965-2 IS 14962-3/ISO 965-3	R			
	Tolerances	3	ISO 1367-2/ISO 4759-1	R			
4	Material (Mechanical Properties)	7 5 -	IS 1367-3/ ISO 898-1 IS 1367-14-1/ ISO 3506-1 ISO 8839	R	One	Each Control Unit	
4	FINISH						
	Electroplating	5 to 7	ISO 4042	R	03	Each batch of surface condition treatment	
	Non - Electrolytically applied zinc flake coating	5 to 7	ISO 10683	R			

4	Surface discontinuities	4	ISO 6157-1 / ISO 6157-3	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
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