



**उत्पाद मैनुअल
फ़ास्टनर्स - टैपिंग स्कू थ्रेड के साथ क्रॉस
रिसेस्ड ड्रिलिंग स्कू
भाग 1 पैन हेड**

आईएस 18471 (Part 1): 2023 / आईएसओ 15481: 1999

**PRODUCT MANUAL FOR
Fasteners — Cross Recessed
Drilling Screws with Tapping Screw
Thread Part 1 Pan Head
ACCORDING TO IS 18471 (Part 1): 2023 / ISO 15481:1999**

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 18471 (Part 1): 2023 / ISO 15481:1999
	शीर्षक Title	:	Fasteners — Cross Recessed Drilling Screws with Tapping Screw Thread Part 1 Pan Head
	संशोधनों की संख्या No. of amendments	:	Nil
2.	नमूना दिशानिर्देश Sampling Guidelines		
a)	कच्चा माल Raw material	:	Steel – ISO 10666
b)	समूहीकरण दिशानिर्देश Grouping Guidelines	:	Please refer ANNEX – A
c)	नमूने का परिमाण Sample Quantity	:	50 Pcs

d)	परीक्षण अनुरोध में घोषित किए जाने वाले पैरामीटर Parameters to be Declared in Test Request	:	• Designation* • Finish
3.	परीक्षण उपकरणों की सूची List of Test Equipment	:	Please refer ANNEX – B
4.	निरीक्षण और परीक्षण की स्कीम Scheme of Inspection and Testing	:	Please refer ANNEX – C
5.	एक दिन में संभावित परीक्षण Possible tests in a day	:	All tests
6.	लाइसेंस का दायरा /Scope of the Licence:		
“License is granted to use Standard Mark as per <i>IS 18471 (Part 1): 2023 / ISO 15481:1999</i> with the following scope:			
Name of the product		Fasteners — Cross Recessed Drilling Screws with Tapping Screw Thread Part 1 Pan Head	
Designation*	Type of Material	Steel	
	Cross Recess	Type – H / Type - Z	
	Thread size	As per Table 1 of IS 18471 (Part 1)	
	Length (nom.)	To be declared by the manufacturer	
Finish		Plain / Electroplating	

* - For guidance refer example given in Cl. 5 of IS 18471 (Part 1): 2023 / ISO 15481:1999

ANNEX -A**Grouping Guidelines**

1. The variety of Fasteners — Cross Recessed Drilling Screws with Tapping Screw Thread Part 1 Pan Head are classified based on the following:

Designation*	Type of Material	Steel
	Cross Recess	Type – H / Type - Z
	Thread size	As per Table 1 of IS 18471 (Part 1)
	Length (nom.)	To be declared by the manufacturer
Finish		Plain / Electroplating

* - For guidance refer example given in Cl. 5 of IS 18471 (Part 1): 2023 / ISO 15481:1999

2. For considering GoL / CSoL, sample of each designation of Fasteners — Cross Recessed Drilling Screws with Tapping Screw Thread Part 1 Pan Head shall be tested.
3. However, the following relaxations may be considered for GoL/CSoL:
 - i. Sample(s) of lowest thread size and highest thread size of any length of Fasteners — Cross Recessed Drilling Screws with Tapping Screw Thread Part 1 Pan Head is to be tested to cover all the thread sizes in that particular designation for which firm is having complete manufacturing and testing facilities.
 - ii. Sample of each type of Finish is to be tested.

Note: If coated sample is tested for all requirements, corresponding Fasteners — Cross Recessed Drilling Screws with Tapping Screw Thread Part 1 Pan Head of same designation with no coating (plain) surface condition may also be covered.

4. The Scope of License may be restricted based on the Manufacturing and testing capabilities of the manufacturer.
5. During the operation of License, it shall be ensured that all the varieties covered in the License are tested in rotation, to the extent possible

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

Sr No	Tests used in with clause reference	Test equipment
1.	Dimension, Cl. 3 & Table 1	Micrometer Scale Vernier Caliper Radius Gauge(s) Profile projector
2.	Threads, Cl. 4 & Table 2 Tolerances, Cl. 4 & Table 2	Go-No Go gauges Radius gauge(s) Thread gauge (s) Profile projector
3.	Mechanical and Functional Properties, Cl. 4 & Table 2	UTM Hardness Tester Optical Microscope Spectrometer Test plate as per ISO 6507-1 Torque wrenches
4.	Finish – Coating, Cl. 4 and Table 2	Coat meter Salt spray tester with heater and temperature controller Stop watch / Timer Sulfurdioxide

ANNEX C

Scheme of Inspection and Testing

1. QUALITY ASSURANCE PLAN

1.1 It is expected that manufacturers (licensees/applicants) will implement a Quality Control 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 Control system 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 2.5.

1.3 RECOMMENDED LEVELS OF CONTROL/CONTROL UNIT:

1.3.1 For the guidance of manufacturers, the recommended definition of control unit is: *Fasteners — Cross Recessed Drilling Screws with Tapping Screw Thread Part 1 Pan Head of same designation and type of finish manufactured in a day under similar process condition from the same consignment of raw materials* shall constitute a control unit.

1.3.2 As mentioned above, recommended levels of control are given in **Table 1 for guidance only**.

1.3.3 The tests as indicated in Table 1 and at the levels of control in column 3 of Table 1 or the Quality Assurance Plan as submitted by the manufacturer to BIS may be carried out on the whole production of the factory which is covered by this plan and records maintained in accordance with para 2.5.

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 where test equipment is required in house i.e “R” or whether it can be subcontracted as “S”. Subcontracting is permitted to BIS recognized/empanelled laboratory or any other laboratory having valid accreditation as per IS/ISO/IEC 17025, test reports issued by the laboratories shall be available for inspection by BIS.

2.2 For MSME manufacturers, the requirement of maintaining a laboratory/in-house testing facility is 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 (including foreign manufacturers) shall maintain an in-house laboratory, which shall be suitably equipped (as given in column 2 of Table 1) and staffed, 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 test equipment.

2.3.1 Alternatively, in lieu of an in-house laboratory, these manufacturers can also utilize the provisions of Sharing of testing facilities as per the Annexure-X (Relaxation in test facilities) of the guidelines for Grant of Licence available on BIS website www.bis.gov.in. (Under Conformity Assessment>Product Certification Process)

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 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 marked legibly and indelibly on the packaging of Fasteners — Cross Recessed Drilling Screws with Tapping Screw Thread Part 1 Pan Head provided always that the screws so marked conforms to each requirement of the specification.

3.1 Marking on the packaging of Fasteners — Cross Recessed Drilling Screws with Tapping Screw Thread Part 1 Pan Head shall be done as per Cl. 5 of IS 18471 (Part 1): 2023 / ISO 15481:1999.

3.2 **Additional Marking requirements:** The following additional requirement shall also be marked on the packaging of the Fasteners — Cross Recessed Drilling Screws with Tapping Screw Thread Part 1 Pan Head:

a) “For BIS certification details please visit www.bis.gov.in”

3.3 All the production which conforms to the Indian Standard and covered under the scope of this licence shall be marked with the Standard Mark.

4. HYGIENIC CONDITIONS (if applicable) – NA.

5. REJECTION - 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 R: Required (or) S: Sub-contracting permitted	Levels of Control		
Cl.	Requirement	Test Method			No. of Sample	Frequency	Remarks
		Clause	Reference				
4 Table 2	Materials		ISO 10666	S	One	Each Consignment	No further testing is required, if accompanied with test certificate or ISI marked.
3	Dimensions	3 Table 1	IS 18471 (Part 1)	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 Table 2	Thread		IS 5957 ISO 1478				
	Tolerances		IS 1367 (Part 2) ISO 4759-1				
	Cross Recess		IS 7478 ISO 4757				
4 Table 2	Mechanical and Functional Properties						
	Metallurgical Properties						
	Surface Hardness	3.2.1	ISO 10666	R	03	Each Control Unit	
	Core Hardness	3.2.2	ISO 10666	R	03	Each Control Unit	
	Case Depth	3.2.3	ISO 10666	R	03	Each Control Unit	
	Microstructure	3.2.4	ISO 10666	R	03	Each Control Unit	
	Hydrogen embrittlement	3.2.5	ISO 10666 ISO 15330 (IS 17445)	R	03	Each Control Unit	
	Mechanical Properties						
	Core Hole drilling capability	4.2.1	ISO 10666	R	03	Each Control Unit	

	Thread forming capability	3.3.1 4.2.1.1	ISO 10666	R	03	Each Control Unit	
	Torsional Strength	4.2.3	ISO 10666	R	03	Each Control Unit	
4 Table 2	Finish - Coating						
	Electroplating		IS 1367 (Part 11) ISO 4042	R	03	Each batch of Surface condition treatment	