



उत्पाद मैनुअल
कंक्रीट प्रबलन के लिए माइल्ड स्टील और
मध्यम तन्यता वाले स्टील बार्स और कोल्ड
रिड्यूसड स्टील वायर्स — विशिष्टि
भाग 1 माइल्ड स्टील और मध्यम तन्यता वाले स्टील बार्स
आईएस 432 (Part 1):2026 के अनुसार

PRODUCT MANUAL
MILD STEEL AND MEDIUM TENSILE STEEL BARS AND
COLD REDUCED STEEL WIRES FOR CONCRETE REINFORCEMENT
PART 1 MILD STEEL AND MEDIUM TENSILE STEEL BARS
According to IS 432 (Part 1):2026

यह उत्पाद नियमावली सभी क्षेत्रीय/शाखा कार्यालयों और लाइसेंसधारियों द्वारा विभिन्न उत्पादों के लिए भारतीय मानक ब्यूरो (अनुरूपता मूल्यांकन) विनियम, 2018 की योजना-1 के अंतर्गत प्रमाणन के संचालन में एकरूपता और पारदर्शिता सुनिश्चित करने के लिए संदर्भ सामग्री के रूप में उपयोग की जाएगी। बीआईएस प्रमाणन प्राप्त करने के इच्छुक भावी आवेदक भी इस दस्तावेज़ का उपयोग कर सकते हैं।

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 432 (Part 1):2026
	शीर्षक / Title	:	Mild Steel and Medium Tensile Steel Bars and Cold Reduced Steel Wires for Concrete Reinforcement - Part 1 Mild Steel and Medium Tensile Steel Bars
	संशोधनों की संख्या No. of amendments	:	0
2.	नमूनाकरण दिशानिर्देश / Sampling Guidelines		
a)	कच्चा माल Raw material	:	Steel for Mild Steel Bars (Cl. 5.1) Steel for Medium Tensile Steel Bars (Cl. 5.2)
b)	समूहीकरण दिशानिर्देश Grouping Guidelines	:	Please refer ANNEX – A
c)	नमूने का परिमाण Sample Quantity	:	For Mechanical Test – 1 m For Chemical Test – 5 cm x 5 pieces
d)	परीक्षण अनुरोध में घोषित किए जाने वाले पैरामीटर Parameters to be Declared in Test Request	:	Same as the parameters given in scope of the licence under S. No. 6. <i>Note: Apart from the above, any other requirements/ parameters may also be declared as per the standard, as applicable.</i>
3.	परीक्षण उपकरण की सूची List of Test Equipment	:	Please refer ANNEX – B
4.	निरीक्षण एवं परीक्षण योजना Scheme of Inspection and Testing	:	Please refer ANNEX – C

5.	एक दिन में संभावित परीक्षण Possible tests in a day	:	• All tests <i>Note: This section is for the guidance of BIS Certification Officers/ Technical Auditors of BIS Authorized Outside Surveillance Agencies (OSAs) during factory inspection to provide ready reference regarding the tests which can be witnessed during the inspection in the factory by the officer/ auditor.</i>
6.	लाइसेंस का दायरा / Scope of the Licence:		
“License is granted to use Standard Mark as per IS 432 (Part 1):2026 with the following scope:			
Name of the product		Mild Steel Bars/ Medium Tensile Steel Bars	
Nominal Size		5 mm / 6 mm / 8 mm / 10 mm / 12 mm / 16 mm / 20 mm / 22 mm / 25 mm / 28 mm / 32 mm / 36 mm / 40 mm / 45 mm / 50 mm	
Grade (applicable for Mild Steel bars only)		I/ II	

BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9, BAHADUR SHAH ZAFAR MARG, NEW DELHI-110002
www.bis.gov.in

ANNEX -A **Grouping Guidelines**

1. "Mild Steel and Medium Tensile Steel bars" covered in IS 432 (Part 1):2026 are categorized as given below:
 - **Mild Steel Bars**
 - (i) Grades: Grade I and II
 - (ii) Nominal Size: 5 mm, 6 mm, 8 mm, 10 mm, 12 mm, 16 mm, 20 mm, 22 mm, 25 mm, 28 mm, 32 mm, 36 mm, 40 mm, 45 mm and 50 mm
 - **Medium Tensile Steel Bars**
 - (i) Nominal Size: 5 mm, 6 mm, 8 mm, 10 mm, 12 mm, 16 mm, 20 mm, 22 mm, 25 mm, 28 mm, 32 mm, 36 mm, 40 mm, 45 mm and 50 mm
2. Further, Mild Steel and Medium Tensile Steel bars are grouped as under based on nominal size:

	Nominal Sizes		
	Group I	Group II	Group III
Mild Steel Bars (Grade I/ Grade II)	Upto and including 20 mm	Over 20 mm, upto and including 50 mm	--
MediumTensile Steel Bars	Upto and including 16 mm	Over 16 mm, upto and including 32 mm	Over 32 mm, upto and including 50 mm

3. Considering the above, the guidelines given below shall be followed for GoL/CSoL:
 - (a) For Mild Steel Bars, sample of any size from each group for each Grade shall be tested for all requirements to cover the complete range of sizes in that group for that particular grade tested.
 - (b) For Medium Tensile Steel Bars, sample of any size from each group shall be tested for all requirements to cover the complete range of sizes in that group.
4. The Firm shall declare the varieties of Mild Steel and Medium Tensile Steel bars they intend to cover in the Licence.
5. The Scope of Licence may be restricted based on the manufacturing and testing capabilities of the manufacturer.
6. During the operation of the Licence, BO shall ensure that all the types and sizes covered in the Licence are tested in rotation, to the extent possible.

ANNEX- B
List of Test Equipments
(Indicative List, For Guidance Only)

Major test equipment required to test as per the Indian Standard

Sl. No.	Cl. Ref.	Tests used in with Clause Reference	Test Equipment
1.	5	Chemical Composition	Spectrophotometer OR Carbon Sulphur (Strohlein's type) Apparatus – Complete set consisting of glass parts, combustion furnace, oxygen cylinder, combustion tubes/ boats etc. Electronic Balance Hot plate Muffle furnace Barometer Thermometer Distilled water plant Burette, Pipette and Full Range of Laboratory Glassware - Conical Flasks, Beakers, Funnel, Pipettes Glass rod, watch Glass, Brush etc. Standard Reference Material Platinum/Silica Crucible for Silicon Test Desiccators Watt Man Filter Paper & Ash less clippings Drilling machine Chemicals and reagents as applicable
2.	7.1	Nominal Size	Ball Ended Micrometer Vernier Caliper
3.	7.2	Mass	Weighing Balance
4.	8	Cutting tolerances on length	Measuring Tape
5.	9.1	Ultimate Tensile Stress Yield Stress Total Elongation %	Tensile Testing Machine Extensometer with Dial Gauge Ball ended Micrometer Steel Scale Vernier Caliper Thermometer Scriber Hammer Sample Cutter Air Conditioner
6.	9.2	Bend Test	Steel Mandrels Templates UTM or any other press machine

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

ANNEX C

Scheme of Inspection and Testing

1. QUALITY ASSURANCE PLAN

- 1.1 It is expected that during operation of BIS licence manufacturers will implement a Quality Assurance Plan (QAP) 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 (QAP) defining the control unit (i.e. lot/batch etc.), the levels of control (i.e. the frequency and number of samples for conducting the different tests as per the Indian Standard) and declare the arrangement for testing i.e. whether in-house or sub-contracting/ sharing for each applicable test and submit the same to BIS Branch Office for information. The manufacturer shall comply with the QAP and maintain test records in accordance with para 2.1.
- 1.3 Recommended Levels of Control/ Control Unit:**
- 1.3.1 For the guidance of manufacturers, the recommended definition of control unit is: *entire quantity of Mild Steel and Medium Tensile Steel Bars of each grade and size manufactured from same cast/lot of raw material in a day* 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](#). Manufacturer has the discretion of declaring their own levels of control or accept the levels of control given in this document.
- 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.
- 1.4 However, all manufacturers shall ensure compliance of their products to all the requirements of the Indian Standard.

2. ENSURING COMPLIANCE THROUGH TESTING

The manufacturers shall ensure compliance of their products to all the requirements of the Indian Standard for which they may have in-house test facilities. However, there is no obligation to maintain in-house laboratory. Licensee may use alternative arrangements for tests of the production as per the declared QAP. Various alternatives are available for operation of BIS certification as given below and the relevant guidelines for availing such relaxations by the manufacturers, as amended from time to time, are to be referred:

- i) Shared testing resources like common facility,
- ii) Cluster based testing facility,
- iii) Sub-contracting to outside laboratories which may either be:
 - a) BIS recognised/ empanelled laboratories, or
 - b) Any accredited laboratory as per ISO/IEC 17025

- 2.1 Test Records-** The manufacturers shall maintain test records for the tests carried out (either in-house or at a sub-contracted or at shared test facility) to establish conformity of the product to the Standard for operation of licence. For the tests being subcontracted or conducted at a shared test facility, test results issued by the laboratories or test facilities, shall be made 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 of the Mild Steel Bars and Medium Tensile Steel Bars provided always that the Mild Steel Bars and Medium Tensile Steel Bars so marked conforms to each requirement of the specification.

3.1 Marking of Mild Steel Bars and Medium Tensile Steel Bars shall be done as per Cl. 12 of IS 432 (Part 1):2026.

3.2 **Additional Marking requirements:** The Chipboard Screws shall also be marked with the following additional requirement on its packaging:

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

4. TEST CERTIFICATE

For each consignment of BIS Certified material conforming to IS 432 (Part 1): 2026 there shall be a test certificate which shall contain the Standard Mark, the Control Unit number and the corresponding test results.

5. REJECTION

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
(Recommended Levels of Control by BIS- for Guidance Only)

(1)				(2)		
Test Details				Levels of Control		
Cl.	Requirement	Test Methods		No. of Sample	Frequency	Remarks
		Clause	Reference			
5	Chemical Composition		IS 2062	Each Consignment		No further testing is required if accompanied with the Test Certificate or ISI marked.
6	Freedom from Defects	6.1	IS 432 (Part 1)	Adequate inspection to ensure that each bundle/ coil is free from surface defects		
7	Nominal Sizes and Mass	7.1, 7.2	IS 432 (Part 1)	02	One sample shall be drawn from starting and ending of each coil/ bundle	*
8	Rolling & Cutting tolerances	8.1	IS 432 (Part 1)	Random check shall be carried out		--
9	Tensile Test (Ultimate Tensile Stress, Yield stress and Percentage elongation)	9.1, 10.2	IS 432 (Part 1)	01	Each control unit or 5 ton whichever is less	*
	Bend test	9.2, 10.3	IS 432 (Part 1)	01		*

* In case of failure, two samples from same control unit shall be tested for that requirement and control unit shall be accepted only if both samples pass