



उत्पाद मैनुअल
Specification for wrought aluminium wire for electrical purposes
IS 2067 : 1975 के अनुसार

PRODUCT MANUAL
FOR Specification for wrought aluminium wire for electrical purposes
ACCORDING TO IS 2067 : 1975

विभिन्न उत्पादों के लिए भारतीय मानक ब्यूरो (अनुरूपता मूल्यांकन) विनियम, 2018 की योजना- I के तहत प्रमाणन के संचालन में अभ्यास और पारदर्शिता के संचालन में पारदर्शिता सुनिश्चित करने 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 लाइसेंस/प्रमाणपत्र 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 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.	उत्पाद Product	:	IS 2067 : 1975
	शीर्षक Title	:	Specification for wrought aluminium wire for electrical purposes
	संशोधनों की संख्या No. of amendments	:	1
2.	नमूना दिशानिर्देश Sampling Guidelines		
a)	कच्चा माल Raw material	:	Aluminium ingots, billets and wire bars used as input material shall conform to Grade 2 of IS 4026:2007. No testing of the product is required if the input material is ISI marked (as per Grade 2 of IS 4026:2007)
b)	समूहीकरण दिशानिर्देश Grouping Guidelines	:	Please refer Annex-A
c)	नमूने का आकार Sample Size	:	6 m
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:		
	“Licence is granted to use Standard Mark as per IS 2067:1975 with the following scope:		
	Name of the product	Wrought aluminium wire for electrical purposes	
	Condition	O/H3/H4	
	Size (diameter)	.. mm up to and including .. mm	

**BUREAU OF INDIAN STANDARDS
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ANNEX-A

GROUPING GUIDELINES

The following grouping guidelines shall apply for Grant of Licence (GoL)/Change in Scope of Licence (CSoL):

Samples of each condition (O/H3/H4) and the smallest size (diameter) of the range of sizes intended to be covered in the scope of licence, shall be tested.

Scope of licence shall be restricted based on the manufacturing and testing facilities available

During the operation of licence, samples of each variety covered in the scope of licence, shall be tested, to the extent possible

ANNEX – B

LIST OF TEST EQUIPMENTS

Major test equipment required to test as per the Indian Standard

Sl. No.	Tests Used In With Clause Reference	Test Equipment/Chemical
1	Chemical Composition, Cl. 4	Laboratory apparatus and reagents as per IS 504 or suitable instrument for chemical analysis such as Optical Emission Spectrometer.
2	Electrical Resistivity, Cl. 7.1	Kelvin double bridge or potentiometer
3	Tensile Strength and Elongation, Cl. 8.1	Tensile Testing Machine (with extensometer)
4	Dimensions (Tolerances), Cl. 10	Micrometer

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

ANNEX B

SCHEME OF INSPECTION AND TESTING

1. **LABORATORY-** A laboratory shall be maintained, 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.

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

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

3. **PACKING AND MARKING** - The Standard Mark as given in the Schedule of the licence shall be incorporated legibly and indelibly on the tag attached to each coil and/or on the test certificate (see 4) provided with each consignment provided always that the material so marked conforms to each requirement of the specification.

3.2 Packing and marking shall be done as per the requirements of the standard. The following shall also be marked on the tag attached to each coil and/or on the test certificate (see 4)

- a) Coil Number and date of manufacture
- b) Condition and Size
- c) BIS licence number and "For BIS certification details please visit www.bis.gov.in"

4. **TEST CERTIFICATE** – For each consignment of BIS Certified material conforming to the specification there shall be a test certificate which shall contain the Standard Mark, the coil number, etc. and the corresponding test results (as given in **Annexure I** enclosed).

5. **CONTROL UNIT-** For the purpose of this scheme, entire quantity of wire of the same condition and size and manufactured from the same consignment of raw material under similar conditions (and on the same production line) in one day shall be taken as one control unit.

6. **LEVELS OF CONTROL** :- The tests as indicate in Table 1 and at the levels of controls in column 3 of Table 1, shall be carried out on the whole production of the factory which is covered by this plan and records maintained in accordance with paragraph 2 above.

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

7. **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.

TABLE1
LEVELS OF CONTROL

(1)				(2)	(3)		
Test Details				Test equipment requirement R: required (or)S: Sub-contracting permitted	Levels of Control		
Cl.	Requirement	Test Methods Clause Reference			No. of Sample	Frequency	Remarks
4	Chemical Composition		IS 504	R*	One	Each control Unit	*No testing is required if the raw material is ISI marked conforming to Grade 2 of IS 4026 (produced by BIS licensee for IS 4026).
5	Condition	5.1	IS 2067	R	Manufacturers shall have in place adequate in process controls/inspection to produce the desired condition		
6	Freedom from defects	6.1	IS 2067	R	Manufacturers shall have in place adequate in process controls/inspection to ensure freedom from defects		
7	Electrical Resistivity	12.4	IS 2067	R	One	Each control unit	
8	Mechanical properties (Tensile Strength, Elongation, Wrapping)	11,12	IS 2067	R	One	Each control unit	

9	Joints	9.1	IS 2067	R	Each coil	
10	Tolerances (on size)	10	IS 2067	R	Each coil	

Note-1: Whether test equipment is required or sub-contracting is permitted in column 2 shall be decided by the Bureau and shall be mandatory. 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.

**ANNEXURE I
TEST CERTIFICATE FORMAT**

XYZ IRON AND STEEL COMPANY

TEST CERTIFICATE FOR WROUGHT ALUMINIUM WIRE FOR ELECTRICAL PURPOSES

TEST CERTIFICATE NO. _____ DATED _____
TO M/s _____

It is certified that the material described below fully conforms to IS 2067 : 1975. Chemical, physical and electrical properties of the product, as tested in accordance with the Scheme of Inspection and Testing contained in the BIS Certification Marks Licence No. CM/L _____ are as indicated below against each order no. etc.

(PLEASE REFER TO IS 2067 : 1975 FOR DETAILS OF SPECIFICATION REQUIREMENTS)

TEST RESULTS

Order Number and date	Quantity in tonnes	Coil No and date of mfg	Condition (O/H3/H4)	Size in mm	Chemical analysis (in %)	Mechanical properties	Electrical Resistivity at 20°C in microohm cm	Freedom from defects and joints
					Al – Si – Fe – Cu – Ti+V – Mg+Zr+Cr -	TS (Mpa) EL%		

The material supplied conforms to specified tolerances

REMARKS

SHIPPING ADVICE NO.

WAGON NO.

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

FOR XYZ IRON AND STEEL COMPANY