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उत्पाद मैनुअल

प्राथमिक नेतृत्व

IS 27:2023 के अनुसार

**PRODUCT MANUAL
FOR PRIMARY LEAD
ACCORDING TO IS 27:2023**

भारतीय मानक ब्यूरो (अनुरूपता मूल्यांकन) विनियम 2018 की स्कीम-I के तहत यह उत्पाद मैनुअल प्रमाणीकरण की संचालन रीति में सुसंगतता और पारदर्शिता सुनिश्चित करने के लिए सभी क्षेत्रीय/शाखा कार्यालयों एवं लाइसेन्स धारियों द्वारा संदर्भ सामग्री के रूप में उपयोग किया जाएगा। बीआईएस लाइसेन्स/प्रमाण पत्र प्राप्त करने के इच्छुक भावी आवेदकों द्वारा भी इस दस्तावेज़ का उपयोग 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 27:2023
	शीर्षक Title	:	Primary Lead
	संशोधन संख्या No. of amendments	:	Nil
2.	नमूनाकरण दिशानिर्देश Sampling Guidelines		
a)	कच्चा माल Raw material	:	No specific requirement <i>Note: This section indicates the requirements for raw material (if specified in the IS) for which compliance is to be established during Grant of Licence/Change in Scope of Licence/Factory Surveillance</i>
b)	समूहिकरण दिशानिर्देश Grouping Guidelines	:	Sample of each grade shall be tested to cover it in the scope of licence.

c)	नमूने का परिमाण Sample Size	:	For Physical tests: Mass, Freedom from Defects shall be carried out in the factory on the primary lead For chemical composition: 500gms pieces of the primary lead in the form of Slices or Molded buttons (As per instrumental method) <i>Note: This section indicates the quantity of the sample of the product and/or the raw material (if applicable), required to be sent to the laboratory for testing, for the purpose of Grant of Licence/Change in Scope of Licence/ Factory Surveillance (in case of market surveillance, effort may be made to procure the required quantity of product sample, as far as possible since raw material sample may not be available in market)</i>
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3.	परीक्षण उपकरणों की सूची List of Test Equipment	:	Please refer Annex-A
4.	निरीक्षण व परीक्षण स्कीम Scheme of Inspection and Testing	:	Please refer Annex-B
5.	एक दिन में संभावित परीक्षण Possible tests in a day All tests (by instrumental method) <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.	लाइसेन्स का कार्यक्षेत्र /Scope of the Licence: Licence is granted to use Standard Mark as per IS 27:2023 with the following scope:		
	Name of the product	Primary Lead	
	Grades	Pb 99.99 / Pb 99.97 / Pb 99.90 Cu/ Pb 99.985/ Pb 99.995	

BUREAU OF INDIAN STANDARDS
MANAK BHAVAN,9, BAHADUR SHAH ZAFAR MARG,
NEW DELHI-110002

ANNEX – A**LIST OF TEST EQUIPMENT**
(Indicative List, for guidance only)

Tests used in with Clause Reference	Test Equipment
Chemical Composition (Instrumental Method) CI 6	Equipment analysing composition by any established method. (Optical Emission Spectrometry, Atomic Absorption Spectrometry, any other)
	Standard Reference Material
Chemical Composition (Alternative to Instrumental Method) CI 6	Determination of Copper & Zinc content by Chemical Analysis as alternative to Instrumental Method: Photometer, Filter Paper, Reagents/ Chemicals : Nitric Acid, Sulphuric Acid, Lead Acid solution, Crezol red indicator, Ammonium Hydroxide, Anhydrous Sodium Phosphate, Citric Acid, Dithiazone solution, Sodium Acetate, Acetic Acid, Pottasium Iodide, Carbon Terachloride, Standard Copper solution, Ethanol, Methanol, Sodium Thiosulphate, Standard Zinc Solution
	Determination Antimony, Arsenic & Tin content by Chemical Analysis as alternative to Instrumental Method: Reagents/ Chemicals : Nitric Acid, Pottasium Permanganate, Manganese Nitrate, Sulphuric Acid, Ammonium Sulphate, Ammonium Hydroxide, Ammonium Persulphate, Pottasium Bisulphate, Hydrazene Sulphate, Carbon Dioxide, Hydrochloric Acid, Sodium Chloride, Sodium Sulphite, Silicon Carbide, Standard Pottasium Bromate Solution, Methyl Orange Indicator, Antimony Trichlotride Solution, Alluminium Pure, Starch Solution, Pottasium Iodide Solution, Standard Iodine solution, Standard Tin solution
	Determination of Bismuth content by Chemical Analysis as alternative to Instrumental Method: Photometer, Reagents/ Chemicals : Nitric Acid, Hydrochloric Acid, Ferric Salt Solution, Ammonium Acetate solution, Sodium Hydroxide Solution, Sulphuric Acid, Tartaric Acid, Sodium Hypophosphite, Pottasium Iodide, Standard Bismuth Solution
	Determination of Iron content by Chemical Analysis as alternative to Instrumental Method: Photometer, Reagents/ Chemicals : Nitric Acid, Hydrochloric acid, Ammonium Hydroxide, Hydrogen Sulphide - Gas, Hydrogen Sulphide Wash Solution, Sodium Acetate - Acetic Acid Buffer Solution, Hydroxyle Amine Hydrochloride Solution, O-Phenanthroline Solution, Standard Iron Solution

	Determination of Silver content by Chemical Analysis as alternative to Instrumental Method Muffle Furnace 1000 Celsius, Scorifier, Cupel, Assay balance, Iron Mould Reagents/ Chemicals: Silica Borax Glass
	Determination of Cadmium content by Chemical Analysis as alternative to Instrumental Method Polarograph Reagents/ Chemicals: Nitrogen Gas, Ammonium Chloride, Gelatin Solution, Hydrochloric Acid, Standard Cadmium Solution
	Determination of Nickel content by Chemical Analysis as alternative to Instrumental Method Photometer Reagents/ Chemicals: Nitric Acid, Sulphuric Acid, Ammonium Hydroxide, Hydrochloric Acid, Hydrogen Sulphide, Boramine Water, Di-MethyleGlyoxine Solution, Alcohol, Standard Nickel Solution
	Sampling mould for spectrometer (As applicable in instrumental method)
	Saw or Chiesel and hammer for slicing sample from finished product
	Sample polishing Machine for surface preparation (As applicable in instrumental method)
	Compressing Machine for pelletization (As applicable in instrumental method)
	Weighing Scale

ANNEX B

SCHEME 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 entire quantity of primary lead of the same grade and cast.**

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 each product and/or the test certificate accompanying a consignment, provided always that the material so marked conforms to each requirement of the specification.

4. 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
LEVELS OF CONTROL

(Only for Guidance purpose)

(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
7.1	Chemical Composition	7.1, Table-1	IS 27:2023	R	One	Each control unit	
8	Freedom from Defects	8	-do-	R	Firm shall exercise adequate in-process controls to check compliance of this parameter given in the Indian Standard. However, appropriate records shall be maintained by the manufacturer for evidence of conformity.		
9	Shape, Size & Mass	9	-do-	R	Firm shall exercise adequate in-process controls to check compliance of this parameter given in the Indian Standard. However, appropriate records shall be maintained by the manufacturer for evidence of conformity.		

ANNEXURE-I
TEST CERTIFICATE FORMAT
XYZ COMPANY
TEST CERTIFICATE FOR PRIMARY LEAD

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

It is certified that the material described below fully conforms to IS 27:2023. Chemical composition 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 27: 2023 FOR DETAILS OF SPECIFICATION REQUIREMENTS)

TEST RESULTS

Order no and date	Purity Grade	Shape, Size & Mass	Cast No./Lot No.	Quantity (in tons)	Chemical Analysis(in%)													Freedom from defects
					Cu	Sb	Bi	Fe	Ag	Zn	As	Cd	Ni	Sn	Te	Total Impurities	Pb	

The material supplied conforms to specified tolerances

REMARKS

SHIPPING ADVICE NO.

WAGON NOS.

FOR XYZ COMPANY

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