



उत्पाद मैनुअल
बर्तनों एवं रसोईघर के लिए अल्प निकल ऑस्टेनिटिक स्टेनलेस स्टील की प्लेट, चादर
एवं पती
IS 15997: 2012 के अनुसार

**Product Manual for
Low Nickel Austenitic Stainless Steel Sheet, Plate and Strip for Utensils and Kitchen
Appliances
According to IS 15997: 2012**

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.	भारतीय मानक संख्या IS No.	:	IS 15997:2012
	शीर्षक Title	:	Low Nickel Austenitic Stainless Steel Sheet, Plate and Strip for Utensils and Kitchen Appliances
	संशोधनों की संख्या No. of amendments	:	03
2.	नमूना दिशानिर्देश Sampling Guidelines		
a)	कच्चा माल Raw material	:	Steels used for manufacturing the product covered in the standard shall conform to the requirements of IS 14650. 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.

b)	समूहीकरण दिशानिर्देश Grouping Guidelines	:	Please refer Annex-A
c)	नमूने का परिमाण Sample Quantity	:	Mechanical: 2 pcs of 0.5m, Chemical: 5 pcs of 5cm x 5cm (for OES/instrumental method) or 100 g drilling (for chemical method) Dimensions and Tolerances (cl.14.) shall be tested in the factory (during Factory Testing) on the full width/length of coil/strip/plate etc. from which samples are drawn for Independent Testing. 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)
d)	परीक्षण अनुरोध में घोषित किए जाने वाले पैरामीटर Parameters to be Declared in Test Request	:	Grade, Heat Treatment Condition, Form, Size, Finish. Note: Apart from the above, any other requirements/parameters may also be declared as per the standard, as applicable.
3.	परीक्षण उपकरणों की सूची List of Test Equipment	:	Please refer to Annex- B
4.	निरीक्षण और परीक्षण की स्कीम Scheme of Inspection and Testing	:	Please refer to Annex- C
5.	एक दिन में संभावित परीक्षण Possible tests in a day		
	All Tests can be carried out in a day 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.		
6.	लाइसेंस का दायरा /Scope of the Licence:		
	IS 15997:2012 के अनुसार मानक मुहर का उपयोग करने के लिए लाइसेंस निम्नलिखित कार्यक्षेत्र के लिए प्रदान किया जाता है □Licence is granted to use Standard Mark as per IS 15997:2012 with the following scope:		
7.	उत्पाद का नाम Name of the product	Low Nickel Austenitic Stainless Steel Plate, Sheet and Strip for Utensils and Kitchen Appliances	
	Condition	Hot Rolled/Cold Rolled	
	Heat Treatment	Annealed/Softened or any other condition as per mutual agreement	

Grade	Grade with Letter symbol and Grade designation (N1, N2, N3, N5,N6,N7)
Form/Size	Plate/Sheet/Strip: Thickness fromxx.... mm to up to and includingxx....mm, Width fromxx....mm to up to and includingxx....mm
Finish	No.0, No.1, 2D, 2B etc.

BUREAU OF INDIAN STANDARDS
Manak Bhawan, 9, Bahadur Shah Zafar Marg,
New Delhi – 110002

ANNEX-A
TO PRODUCT MANUAL FOR
Low Nickel Austenitic Stainless Steel Plate, Sheet and Strip for Utensils and Kitchen
Appliances
According to IS 15997:2012

GROUPING GUIDELINES

For the purpose of GoL/CSoL, the following Grouping Guidelines shall be considered:

A) Grouping based upon Grade Designations:

Manufacturer shall declare the Grade Designations intended to be covered in the Scope of the Licence.

Grade Designations	Grouping
N1,N2,N3 N5,N6,N7	One sample of each Grade Designation shall be drawn and tested to cover all Grade Designations in the Scope of Licence.

B) Grouping based upon Rolling Condition:

Rolling Condition	Grouping
Hot Rolled	Separate Samples, in addition to A above, shall be drawn and tested for each Rolling Condition
Cold Rolled	

C) Grouping based upon Heat Treatment /Deliver Condition:

Heat Treatment/Deliver Condition	Grouping
Annealed/Softened	Samples, drawn at A&B above, shall be drawn in such combination so that samples of each Heat Treatment/Delivery condition, intended to be covered in the scope of the licence are tested.
Any other Heat Treatment/Delivery Condition (as per mutual agreement)	

D) Grouping based upon Surface Finish:

Surface Finish	Grouping
Hot Rolled (No.0, No.1)	Samples, drawn at A,B & C above, may be of any Surface Finish. Separate Samples for each Surface Finish are not required to be drawn. However, recommendation of Scope of Licence for Surface Finishes shall be restricted based upon manufacturing capability
Cold Rolled (2D,2B, BA)	
Polished Finishes (No.3, No.4)	
Any other Surface Finish (as per mutual agreement)	

Evidence of Manufacturing Capability of all Surface Finishes in the form of Mill Test Certificates (of earlier consignments), intended to be covered in the Scope of the Licence shall be submitted by the manufacturer. BOs shall ensure the submission of MTCs of all Surface Finishes before endorsing all Surface Finishes in Scope of Licence.

E) Grouping based upon Form of Stainless Steel and Size:

Form of Stainless Steel and Size	Grouping
Plate	Samples , drawn at A,B & C above, may be of any Form and Size. Separate Samples shall not be drawn and tested for each Form and Size. However, if manufacturer intends to cover different Forms in Scope of Licence, each Form shall be tested separately in the Factory during PI for the requirements of Dimensions and Tolerances only. Recommendation of Scope of Licence for Size shall be restricted based upon manufacturing capability
Strip (Coil)	
Sheet	

1. Scope of licence shall be restricted based on the manufacturing and testing facilities available.
2. During operation of licence, samples of each variety covered in the scope of licence, shall be 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 requirements of Indian Standard.

Sl. No.	Tests Used in with Clause Reference	Test Equipment/Chemicals and Identification Numbers (Where applicable)
1.	Freedom from Defects (Cl.6)	Visual Examination
2.	Chemical Composition (Cl.8)	<u>i. Analytical method</u> (1)Carbon & Sulphur: IS 228(P-I) Carbon – Sulphur (Strohlein’s type) apparatus- complete set (consisting of glass parts assembled on wooden stand, combustion furnace, thyristor based electronic control panel, Oxygen cylinder, Sulphur cup, combustion boats Barometer, Room temperature thermometer etc. Standard steel of appropriate values of carbon & Sulphur. (2)Silicon: IS 228 (Part 8) Hydrochloric acid, Sulphuric acid, Nitric acid ,Silver Nitrate, Perchloric acid, Hydrofluoric acid, Weighing balance 200g, LC 0.1 mg, Muffle furnace up to 1100°C, Platinum Crucibles, Hot Plate, Porcelain dish 300ml, Filter paper pulp. Filter papers General lab glassware. (3)Manganese IS 228 (Part 2): Sulphuric Acid, Concentrated .Nitric Acid - Relative density 1.42, Phosphoric Acid, Ammonium persulphate, Silver Ntrate,Sodium Chloride, Sodium carbonate, Sodium arsenite, Steel sample of known Manganese Content. (4) Nickel:Cl 6,2 of 228(P-5): Hydrochloric Acid, Nitric Acid-, Perchloric Acid -, Tartaric Acid, Ammonium hydroxide, Dimethylglyoxime, Methyl Red , Ammonium Nitrate, Hydrofluoric Acid – Sintered glass crucible No. 3, (5) Chromium IS 228 (Part 6): Wide mouth conical Flask, glass beads, Phosphoric Acid, Sulphuric Acid, Concentrated Nitric Acid, Hydrochloric Acid - , Silver Nitrate,

		Ammonium Persulphate Solution, Ferrous Ammonium Sulphate, Ammonium persulphate, Potassium Permanganate(AR) Sodium Oxalate(GR) (6) Phosphorus: IS 228 (Part 3). Nitric Acid conc., Potassium Permanganate, Ammonium Hydroxide, Sodium Nitrite, ammonium molybdate, Phenolphthalein Solution (1%), Sodium Hydroxide, Potassium hydroxide, Potassium Nitrate, sodium carbonate, Hydrochloric Acid- , Hydrofluoric Acid, Perchloric Acid ferrous sulphate crystals ($\text{FeSO}_4 \cdot 7\text{H}_2\text{O}$), Sulphurous Acid, Hydrobromic Acid - filter paper pulp pad. (7) Nitrogen: IS 228 (Part 19) APPARATUS FOR DETERMINATION OF NITROGEN BY STEAM DISTILLATION(as per Fig 1 of IS 228 (Part 19) Nessler's Reagent(potassium iodide, mercuric chloride, potassium hydroxide) Potassium Sulphate, Crystals, Copper Sulphate Crystals, Sulphuric Acid $\rho=1.84$, Barium Chloride, Mixed Indicator Solution (Bromocresol green, Methyl Red) Devarda's Alloy, (50 Cu, 5 Al, 5 Zn.), Boric Acid, Sodium Hydroxide-Tartaric Acid, Potassium acid phthalate Note: Availability of General lab equipment Balance 200g (LC =0.1 mg), Hot plates, Fuming chambers & Glass ware i.e beakers, flasks, burette, pipettes, volumetric flask round bottom flask, funnels, Filter paper shall be insured during the visit. (8)Copper: Plate, Muffle Furnace, porcelain or silica crucible, Reagents: HotWash Solution(dilute sulphuric acid solution 1 : 99 v/v with hydrogen sulphide), dilute sulphuric acid, hydrogen sulphide, Dilute Nitric Acid, Sodium Fluoride, solid, Dilute Ammonium Hydroxide,Acetic Acid, Potassium Iodide, Starch Solution, Sodium Thiosulphate Solution, Ammonium Bifluoride Solution
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	-do-	ii. Instrumental Method - Optical Emission Spectrometer (OES) with requisite channels and certified reference material
3.	Tensile & Elongation (Cl. 9.2)	Universal Tensile testing machine(0-100KN), Vernier Clippers 150mm LC 0.2 mm)
4.	Erichsen Cupping Test Cl 9.4 (Optional Test)	Cupping test Equipment
5.	Dimensions (Cl 14)	Steel Scale 1000 mm LC 0.5mm Vernier Clipper 600mm LC 0.02mm Measuring Tape 400cm LC 1mm Surface plate size 2000mm X1000 mmx 5mm, Feeler Gauge, Vernier clippers Surface plate size 2000mm X1000mmx5mm, Feeler Gauge, Vernier calipers
6.	Surface Finish (Cl 11)	Visual

Note: The above is an indicative list for the purpose of guidance only

ANNEX- C 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: Stainless Steel of the same form and size, same grade designation, treated to the same Heat Treatment process/delivery condition, having the same surface finish and manufactured from the same cast/heat on the same line in one go 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/empanelled 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 license and Licence Number (i.e. CM/L) shall be incorporated suitably/legibly on each package of plate, sheets, strips and coils provided that the stainless steel contained in the package thus marked conforms to the requirement of the specification.

3.1 Packing and Marking shall be done as per the Indian Standard.

3.2 **Additional Marking requirements:** The material or packaging shall also be marked with the following additional requirement:

- a) “For BIS certification details please visit www.bis.gov.in”
- b) Any other requirement not specified in the Indian Standard

4. TEST CERTIFICATE – For each consignment of BIS Certified material conforming to IS 15997:2012 there shall be a test certificate which shall contain the Standard Mark, the cast/Control Unit number and the corresponding test results (as given in Annexure-I enclosed).

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)		(4)
TEST DETAILS					LEVELS OF CONTROL		REMARKS
Clause	Requirements	Test Method		Test equipment requirement R: required (or) S:Sub-contracting permitted	No. of Samples	Frequency	
		Clause	Reference				
5	Manufacture	5	IS 15997	R			Steels used for manufacturing the product covered in the standard shall conform to the requirements of IS 14650.
6	Freedom from defects	6	IS 15997	R			Manufacturer shall exercise adequate in-process controls to ensure that the material remains free from harmful defects.
8	Chemical Composition						
	a) Ladle Analysis	8.1, 10.1	IS 15997	R	One	Each Heat	Applicable for primary stainless steel producers only
	b) Check Analysis			R	---	---	Applicable for primary stainless steel producers only
					One	Each Heat	Applicable for manufacturers not having steel making facilities. No further testing is required if raw

							material/input material received is ISI marked and is received with Test Certificate.
9	Mechanical Tests						
9.2	Tensile Test		IS 1608 (Part-1)	R	One	Each control unit	---
9.4	Erichsen Cupping test*		IS 10175 (Part-1)	S	---	---	*Subject to agreement between purchaser and manufacturer and applicable only for thickness from 0.20 mm to 1.25 mm
12, 14	Dimensional tolerances	12, 14	IS 15997	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.		
11	Surface Finish	11	IS 15997	R	Manufacturer shall ensure that the material is supplied in one of the standard finishes on both surfaces for mill finishes and one or both surfaces for polished / ground finishes.		

PM/15997/6
November 2025

Annexure-I
(Para 4 of the Scheme of Inspection and Testing)
XYZ IRON AND STEEL COMPANY
(Registered office Address and works address)

ISI Mark
With IS No.
and CM/L
no.

Test Certificate for Low Nickel Austenitic Stainless Steel Plate, Sheet and Strip for Utensils and Kitchen Appliances According to IS 15997:2012
TEST CERTIFICATE NO. _____

To M/s _____

Dated _____

We certified that the material described below fully conforms to IS 15997:2012 Chemical composition and Physical 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.

(PLEASE REFER TO IS 15997:2012 FOR DETAILS OF SPECIFICATION REQUIREMENTS)

TEST RESULTS

Order No. & Date	Nom Size	Control Unit No./Cast Number	Grade	Qty. (In tonnes)	Chemical Composition (in %)										Physical Properties				Remarks
					C	S	P	Si	Mn	Ni	Cr	Cu	N	Tensile Strength (N/mm ²)	0.2% Proof Stress	Elongation %	Erichsen cupping test#		

If agreed between purchaser and manufacturer

Remarks

Wagon No.

Truck No.

FOR XYZ IRON AND STEEL COMPANY

(It is suggested that size A4 paper be used for this test Certificate)