



उत्पाद मैनुअल
अतप्त -लघुकृत टिनमिल उत्पाद - ब्लैकप्लेट
IS/ISO 11951:2016 के अनुसार

PRODUCT MANUAL FOR
Cold-Reduced Tinmill Products - Blackplate
according to IS/ISO 11951: 2016

भारतीय मानक ब्यूरो (अनुरूपता मूल्यांकन) विनियम 2018 की स्कीम-I के तहत यह उत्पाद मैनुअल प्रमाणीकरण की संचालन रीतिमें सुसंगतता और पारदर्शिता सुनिश्चित करने के लिए सभी क्षेत्रीय/शाखा कार्यालयों एवं लाइसेन्सधारियों 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/ISO 11951: 2016
	शीर्षक Title	:	Cold-Reduced Tinmill Products - Blackplate
	संशोधन संख्या No. of amendments	:	0
2.	नमूनाकरण दिशा निर्देश Sampling Guidelines		
a)	कच्चा माल Raw material	:	No specific requirement
b)	समूहिकरण दिशा निर्देश Grouping Guidelines	:	Please refer Annex – A

c)	नमूने का परिमाण Sample Size	:	For mechanical test: 2 pieces of 500 mm length For chemical test: 5 pieces of 50 mm x 50 mm
3.	परीक्षण उपकरणों की सूची List of Test Equipment	:	Please refer Annex – B
4.	निरीक्षण व परीक्षण स्कीम Scheme of Inspection and Testing	:	Please refer Annex – C
5.	एक दिन में संभावित परीक्षण Possible tests in a day	:	All tests are possible to be carried out in a day
6.	लाइसेन्स का कार्यक्षेत्र /Scope of the Licence:		
	IS/ISO 11951:2016 के अनुसार मानक मुहर का उपयोग करने के लिए लाइसेन्स निम्नलिखित कार्यक्षेत्रके लिए प्रदान किया जाता है Licence is granted to use Standard Mark as per IS/ISO 11951: 2016 with the following scope:		
	Name of the product	Cold-Reduced Tinmill Products - Blackplate	
	Steel Grade Designation	T49, T53, T55, T57,.... T71, T72, T73,.... TS200, TS230, TS245,.... TH230, TH245,	
	Thickness Range	Single Cold Reduced blackplate from 0.150 mm to up and including 0.600mm, Double-cold reduced blackplate from 0.10 mm to upto and including 0.360 mm	
	Width range	600 mm (500 mm may be supplied as per agreement) to up to and includingxxx.... mm (Trimmed/Mill Edge (Untrimmed))	
	Finish	Smooth (BT), Fine Stone (FS), Stone (ST), Matt (MM)	

ANNEX A
TO PRODUCT MANUAL FOR
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GROUPING GUIDELINES

The following procedure to be adopted towards grant of licence and inclusion of additional varieties:

1. Grouping has been done based on mechanical properties and degree of cold working for designations defined on hardness values and based on proof strength for designations defined on tensile properties as under:

Group	Product	Designations covered in the group
1	Designations of Single cold-reduced blackplate classified on basis of hardness values(HR30Tm)	T49, T53, T55, T57, T59, T61, T65.
2	Designations of Double cold-reduced blackplate classified on basis of hardness values(HR30Tm)	T71, T72, T73, T75, T76.
3	Designations of Single/Double cold-reduced blackplate classified on tensile property and requiring Batch Annealing (BA) or Continuous Annealing (CA)	TS200, TS230,TS245,TS260,TS275,TS290,TS340,TS480, TS520,TS550, TS 580, TS620 TH230, TH245,TH260,TH275,TH300,TH330, TH350,TH385,TH400,TH415,TH435,TH450,TH480,TH520, TH550,TH580, TH620, TH650.

2. In case of GOL/inclusion for group-1 or group-2, one sample of any size (thickness/width) and finish but of higher hardness shall be drawn. If sample passes, all other designations having lower hardness shall be covered along with the sizes and finishes intended to be covered in the licence.

3. In case of GOL/inclusion for group 3, one sample each of higher proof strength and of lower proof strength shall be drawn and tested to cover all the designations of the product within the group. The samples drawn shall be of any size, finish and requiring Batch Annealing (BA) or Continuous Annealing (CA).

4. For testing of imperfections and tolerances on Dimensions and shapes such as thickness and feather edge, width, length, edge camber, flatness, Joints within a coil, one sample of any size of each group intended to be covered in the licence may be tested in the factory. Separate samples are not required to be tested for physical parameters for each size/designation.

5. However, while considering inclusion of a new variety (designation), licensee shall submit factory test report for physical parameters if the physical parameters are different from the ones already tested.

6. While drawing samples for independent testing, applicable declaration as per cl. 7.1(Annex-C), 7.2 and 7.3 of IS/ISO 11951: 2016 may be obtained and reflected in the test request appropriately.

7. If the samples drawn passes, licence may be granted/inclusion be done for the Designations of the Group. However, it shall be ensured that the firm is having all necessary manufacturing capabilities and testing facilities for the Designations against the range of thickness, range of width, finish and type of annealing intended to be included in the licence.

8. During the operation of license, BO shall ensure that all Grades & Designations covered in the license are drawn for independent testing on rotation over a period of time.

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LIST OF TESTS EQUIPMENTS

Major test equipment essentially required to test as per requirements of Indian Standard.

Sr.No.	Test Equipment	Test Used in With Clause Reference
1	Surface Roughness tester	Finish (clause 7.3)
2	Rockwell Hardness tester	Hardness measurement (8.2)
3	Spring-back Test apparatus/ Tensile testing machine/ Oven	Tensile Property requirement (8.3)
4	Digital Vernier	Tolerances on dimensions and shape (clause 9 and 10)
5	Steel Scale	
6	Measuring tape	
7	Wedge Scale / feeler gauge	
8	Digital Micrometre	
9	Measuring Table	
10	Flatness table	

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

ANNEX C
To Product Manual for
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1. **LABORATORY** - A laboratory shall be maintained which shall be suitably equipped (as per the requirement given in column 2 of Table 1) and staffed, where different tests given in the specification shall be carried out in accordance with the methods given in the specification.
- 1.1 The manufacturer shall prepare and implement calibration plan for the test equipment.
2. **TEST RECORDS** – The manufacturer shall maintain test records for the tests carried out to establish conformity.
3. **LABELLING & MARKING** – The Standard Mark as given in the Schedule of the license and Licence Number (i.e., CM/L.....) shall be incorporated on the product and on the test certificate accompanied along with each consignment, and the marking shall be done as per the provisions of the Indian Standard, provided always that the product thus marked conforms to all the requirement of the specification.
4. **CONTROL UNIT** – For the purpose of this scheme, a control unit shall be taken as a single coil of one cast manufactured under uniform conditions of production and up to a maximum of 30000 kg (30 tonnes).
5. **LEVELS OF CONTROL** - The tests as indicated in column 1 of Table 1 and the levels of control in column 3 of Table 1, shall be carried out on the whole production of the factory which is covered by this plan and appropriate records maintained in accordance with paragraph 2 above.
- 5.1 All the production which conforms to the Indian Standards and covered by the licence should be marked with Standard Mark.
6. **TEST CERTIFICATE**- For each consignment of BIS Certified material conforming to IS/ISO 11951: 2016 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)
7. **REJECTIONS** – Disposal of non-conforming product shall be done in such a way to ensure that there is no violation of provisions of BIS Act, 2016. A separate record shall be maintained giving information on quantity and cast number/coil number/control unit number, as applicable, relating to all such rejections/defective/sub-standard material of the production not conforming to the requirements of the Specification and the method of its disposal. Such material shall in no case be stored together with that conforming to the Specification. The Standard Mark (if already applied) on rejected material should be defaced.

TABLE 1: LEVELS OF CONTROL

(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				
7.1	Chemical Composition	Choice of a suitable physical or chemical analytical method for the analysis shall be at the discretion of the manufacturer. In cases of dispute, the method for analysis used shall be agreed considering the relevant Indian Standard.					
	Cast Analysis	7.1, AnnexC	IS/ISO 11951: 2016	R	One	Each Heat	Applicable for manufacturers having steel making facilities. The chemical composition as declared by the manufacturer.
	Product Analysis	-do-	-do-	R	One	Each Cast	Applicable for manufacturers without steel making facilities. However, no testing is required if non-alloy quality steel used is ISI marked conforming to IS 2385 and is received with test certificate.
7.3	Finish	7.3	IS/ISO 11951: 2016 IS 15263/ISO 4288	R	One	Each coil	—
7.4	Oiling	7.4	IS/ISO 11951: 2016	R	Adequate inspection to ensure that the material conforms to the requirements of the specification		
7.5	Imperfections	7.5	IS/ISO 11951: 2016	R	Adequate inspection in the line of production and in the stacks to ensure freedom from defects.		

8	Mechanical Properties						
	Hardness Requirement	8.2, 12.1 and Table A.1, A.2	IS/ISO 11951: 2016 IS 1586(Pt.1)	R	One	Each Control Unit	----
	Tensile property requirement	8.3,12.2 & Table-B.1	IS/ISO 11951: 2016 IS 1608 (Pt.1)	R	One	Each Control Unit	----
9	Tolerances on Dimensions and shape	9.1, 9.2, 9.3, 9.4, 9.5, 9.6,	IS/ISO 11951: 2016	R	Adequate measurement to ensure each coil conforms to the various requirements and specified tolerances		
10	Joint within a coil	10.1 to 10.4	IS/ISO 11951: 2016	R	Adequate measurement to ensure that coils conform to the various requirements and specified tolerances.		
15	Dispatch and Packaging	15.1, 15.2	IS/ISO 11951: 2016	R	Adequate measurement to ensure that coils conform to the specified requirements		

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: The control unit and levels of control as decided by the Bureau are obligatory to which the licensee shall comply with.

PM/ IS /ISO 11951/1 Nov 2022

ANNEXURE I

(Para 6 of the Scheme of Inspection and Testing)

XYZ STEEL COMPANY

(Registered office Address and works address)

TEST CERTIFICATE FOR COLD-REDUCED TINMILL PRODUCTS – BLACKPLATE**According to IS/ISO 11951: 2016**BIS
STANDARD
MARK

TEST CERTIFICATE No. _____

DATE _____

To M/s _____

We certified that the material described below fully conforms to IS/ISO 11951: 2016, for Physical properties of the product and with Chemical composition as declared below, as tested in accordance with the Scheme of Inspection and Testing contained in the BIS Certification Marks Licence No. CM/L _____ which indicated below against each order No.

(PLEASE REFER TO IS/ISO 11951: 2016 FOR DETAILS OF SPECIFICATION REQUIREMENTS)

TEST RESULTS

Order No. & Date	Nom Size (mm)	Control Unit/ Batch No.	Designation (steel grade)	Quantity in tonnes	CHEMICAL COMPOSITION [#]					Dimensional Tolerances					Mechanical properties		Surface finish
															Proof - stress (MPa)	hard ness (HR30Tm)	
					C %	S %	P %	Si %	Mn %	thickness	width	length	Edge camber	flatness			

[#] As agreed

REMARKS

WAGON NO.

TRUCK NO.

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

FOR XYZ STEEL