

CENTRAL MARKS DEPARTMENT 2

Our ref.: CMD-2/16: 5986

Dated:29/05/2018

Subject: Implementation of revised STI of IS 5986:2017.

This has reference to the above and CMD-2's note no. CMD-2/16:5986,1079dt. 17.08.2017.

The Competent Authority has granted approval for the following revised STI:

IS No.	Existing STI	Revised STI
5986:2017	Doc : STI/5986/5 September 2017	Doc : STI/5986/ 6 May 2018

In the revised STI, modification has been made in Table-1 at remarks pertaining to "Product Analysis".

Guidelines for implementation of revised IS 5986:2017 circulated vide CMD-2's note no. CMD-2/16:5986,1079dt. 17.08.2017 remains unchanged otherwise.

All ROs/BOs are requested to bring the above revised STI enclosed herewith to the attention of licensees/applicants and ensure its implementation by 29 June 2018.

(Arun Pucchakayala)
Scientist C, CMD-2

Head CMD-2 (sd/-)

Circulated to all ROs/BOs

Copy to: ITS for hosting on BIS Intranet.

केंद्रीय मुहर विभाग - 2

हमारा संदर्भ : सी एम डी-2/16:5986

29 05 2018

विषय : आई एस 5986:2017 की संशोधित एस टी आई का अनुपालन

यह उपरोक्त विषय एवम सी एम डी-2 के नोट संख्या सीएमडी-2/16:5986, 1079 दिनांक 17 08 2017 के संदर्भ में है।

सक्षम अधिकारी ने निम्नलिखित संशोधित एसटीआई को सहमति प्रदान की है। यह एसटीआई संलग्न है।

मानक संख्या	वर्तमान एसटीआई	संशोधित एसटीआई
5986:2017	Doc : STI/5986/5 सितम्बर 2017	Doc : STI/5986/ 6 मई 2018

संशोधित एसटीआई में टेबल-1 में "प्रोडक्ट एनालिसिस" की टिप्पणी में परिवर्तन किया गया है। नोट संख्या सीएमडी-2/16:5986, 1079 दिनांक 17 08 2017 द्वारा परिचालित मौजूदा कार्यालयन दिशा निर्देश में इसके अलावा कोई परिवर्तन नहीं है।

सभी सम्बंधित क्षेत्रीय/शाखा कार्यालयों से अनुरोध है की संशोधित एस टी आई को लाइसेंसधारकों / आवेदकों के संज्ञान में लाएं एवम 29 जून 2018 तक इसका अनुपालन सुनिश्चित करें।

(अरुण पुच्छकायला)
वैज्ञानिक सी

प्रमुख (के.मु.वि. - 2) (हस्ता/-)

सभी क्षेत्रीय/शाखा कार्यालयों को परिचालित

प्रतिलिपि : आई टी एस - इंटरनेट पर प्रस्तुत करने के लिए

**SCHEME OF TESTING AND INSPECTION
FOR CERTIFICATION OF
HOT ROLLED STEEL SHEET, PLATE AND STRIP FOR
FORMING AND FLANGING PURPOSES
ACCORDING TO IS 5986:2017
(Fourth Revision)**

1. LABORATORY

1.1 A laboratory shall be maintained which shall be suitably equipped and staffed where different tests given in the specification shall be carried out in accordance with the methods given in the specification.

1.2 All testing apparatus/measuring instruments shall be periodically checked, verified and calibrated as appropriate and records of such checks/verification, calibration shall be maintained. Frequency of calibration of tensile testing machine shall be preferably once in six months and in any case not less than once in a year.

2. TEST RECORDS

2.1 All records of tests and analysis as per this Scheme of Testing and Inspection shall be kept in suitable forms.

2.2 Copies of any such records that may be required by BIS shall be made available at any time on request.

3. QUALITY CONTROL

3.1 It is recommended that, as far as possible. Statistical Quality Control (SQC) methods may be used for controlling the quality of the product during production as envisaged in this scheme [See IS 397 (various parts)].

3.2 In addition efforts should be made to gradually introduce the Quality Management System in accordance with IS/ISO 9001.

4. STANDARD MARK

4.1 The Standard Mark, as given in Column (1) of the First Schedule of the licence shall be marked, as specified for Hot Rolled Steel Sheet, Plate and Strip for flanging and forming purposes as per IS 5986:2017, legibly on top of each package of steel sheet, plate and strips.

4.2 TEST CERTIFICATE- For each consignment of BIS Certified material conforming to IS 5986:2017, there shall be a test certificate which shall contain the Standard Mark, the cast number, grade designations and the corresponding test results (See Annexure I).

4.3 MARKING- The following shall be legibly marked on metal tag or adhesive label/sticker, on each bundle of steel plates and sheets and on each coil of steel strips:

a) Manufacturer's name or trade mark,

- b) Grade & Designation
- c) Cast or identification mark by which the sheet, plate or strip may be traced to the cast
- d) Mass/Net weight and
- e) Licence No. (CM/L....)
- f) For BIS marks Licence, visit the website www.bis.gov.in

4.4 In addition, each sheet/ plate of the bundle shall be legibly marked with the standard mark, cast number and the trade mark of manufacturer.

5. LEVELS OF CONTROL

5.1 Inspection and tests at various levels of control specified in Table 1 shall be carried out on all quantities of steel intended to be covered under this scheme and appropriate records as per para 2 and charts as per para 3 of this STI shall be maintained. All production which conforms to the Indian Standard and covered by the licence shall be marked with BIS Standard Mark.

5.2 METHOD OF MANUFACTURE - Steel shall be manufactured by any process of steel making except Bessemer process. It may be followed by secondary refining or secondary vacuum treatment.

5.3 Steel shall be semi-killed or killed. However, except structural type steel, all other grades shall be supplied in killed condition only

5.5 CONTROL UNIT - For the purpose of this scheme the material or part thereof representing the same cast, grade manufactured under identical conditions shall constitute a control unit.

5.6 On the basis of tests and inspection results, decision regarding conformity or otherwise of lots of steel to the requirements of the specification shall be taken as indicated below:

5.6.1 CHEMICAL COMPOSITION- The Ladle analysis of steel shall confirm to the requirements as laid down in the cl.7.1 of IS 5986:2017.

5.6.2 The Product analysis of the steel shall conform to the requirements as laid down in the cl.7.2 of IS 5986:2017.

5.6.3 The manufacturer shall declare the chemical/established instrumental method adopted for chemical analysis. Also details of the reference material accompanied with test certificate used for calibration and frequency of calibration shall be declared by the licensee for the established instrumental method.

5.6.4 HOLE EXPANSION RATIO TEST -The details of test method as per relevant ISO standard or as agreed upon between manufacturer and supplier, if any, shall be declared along with frequency of calibration for the instruments of method established.

5.6. 5 RETEST- If a test does not give the specified results, two additional tests shall be carried out at random on the same control unit. Both retests shall conform to the requirements of this standard, otherwise, the control unit shall be rejected.

5.6.6 CALCULATION OF MASS- The mass of steel shall be calculated on the basis of steel density 7.85 gm/cm².

5.6.7 WELDABILITY- All steels complying with the standard are of weldable quality. The material shall be suitable for gas welding, arc welding, spot welding and Roller seam welding.

5.6.7 SUPPLY & DELIVERY OF MATERIAL- The material shall meet the requirements of clause 4 of the specification. Steel sheets, plates and strips may be supplied in any one or in combination of the conditions mentioned in Cl.17 of the specification subject to mutual agreement between the purchaser and the manufacturer.

5.6.8 Subject to prior agreement between the manufacturer and the purchaser, a suitable protective treatment may be given to the material.

6. REJECTION

6.1 Any rejected material which is potentially re-salable be sheared or cut or deformed in such a manner that it cannot be used for any other purpose except re-melting. 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.

7. SAMPLES

7.1 The licensee shall supply, free of charge, the samples required in accordance with the Bureau of Indian Standards (Certification) Regulations, 1988, as amended from time to time, from the factory or godown. BIS may draw samples from the open market, if available.

8. REPLACEMENT

8.1 Whenever a complaint is received soon after the goods with Standard Mark have been purchased and used, and if there is adequate evidence that the goods have not been misused, defective goods or their components are replaced or repaired free of cost by the licensee in case the complaint is proved to be genuine and the warranty period (where applicable) has not expired. The final authority to judge the conformity of the product to the Indian Standard shall be with the Bureau.

8.2 In the event of any damages caused by the goods bearing the Standard Mark, or claim being filed by the consumers against BIS Standard Mark and not

“conforming to” the relevant Indian Standard, entire liability arising out of such non-conforming product shall be of licensee and BIS shall not in any way be responsible in such cases.

9. STOPPAGE AND RESUMPTION OF MARKING

9.1 The marking of the product shall be stopped under intimation to Bureau if, at any time there is some difficulty in maintaining the conformity of the product to the specification, or the testing equipment goes out of order, or if directed to do so by Bureau for any reason. The marking may be resumed as soon as the defects are removed and the Bureau gives the permission to do so. The information regarding resumption of marking shall also be sent to Bureau.

9.2 The marking of the product shall be stopped immediately if directed to do so by BIS for any reason. The marking may then be resumed only after permission by BIS. The information regarding resumption of marking shall also be sent to BIS.

10. PRODUCTION DATA

10.1 The licensee shall send to BIS a statement of quantity produced, marked and exported by him and the value thereof at the end of each operative year of the licence as per the enclosed proforma which has to be authenticated by a Chartered Accountant.

Table 1.....

IS 5986:2017
HOT ROLLED STEEL SHEET, PLATE AND
STRIP FOR FORMING AND FLANGING PURPOSES
TABLE 1 LEVELS OF CONTROL
(Para 5 of the Scheme of Testing and Inspection)

TEST DETAILS			LEVELS OF CONTROL			REMARKS	
Clause	Requirement	Test Method		No. of Samples	Lot Size		Frequency
		Clause	Reference				
6	Manufacture	6.2	IS 5986:2017	One	Each Heat	100%	Records of condition supplied shall be maintained
7	Chemical composition	IS 228 or any other established instrumental/chemical method					
	i) Ladle analysis	7.1 Table-3 & Table-4	IS 5986:2017	One	Each Heat	Each Heat	Applicable for manufacturers with steel making and continuous rolling facilities
	ii) Product analysis	7.2 Table-3, Table-4 & Table-5	IS 5986:2017	i) Nil	i) Nil	i)---	i) Applicable for manufacturers with steel making and continuous rolling facilities
	ii) One			ii) Each Cast	ii) Each cast	ii)* Applicable for manufacturers with no steelmaking facilities.	
*No testing is required if the material is ISI marked and received with test certificate.							

8	Tensile test	8.1, 8.1.1, 8.2, 8.2.1, 8.3, 8.3.1 8.3.2	IS 5986:2017 IS 1608	One	Each Cast	Each cast	Where plates, sheets and strips of more than one thickness are rolled from the same cast, additional tensile tests shall be made as per Cl. 8.1.1 of IS 5986:2017.
9	Bend Test	9.1, 9.1.1, 9.2, 9.2.1, 9.2.2, 9.2.3	IS 5986:2017 IS 1599	One	Each Cast	Each cast	Where plates, sheets and strips of more than one thickness are rolled from the same cast, additional bend tests shall be made as per Cl.9.1.1 of IS 5986:2017.
10	Impact Test	10.1 10.2 10.3 10.4	IS 5986:2017 IS 1757(Pt.1)	One (comprising of three pieces)	Each Cast	Each Cast	If agreed at the time of enquiry and stated in the order.
11	Hole Expansion Ratio Test	11	IS 5986:2017	Also see Cl. 5.6.4 of the STI.			
13	Freedom from defects	13.1 13.2 13.3	IS 5986:2017	Adequate inspection to ensure each item to be free from surface defects and Records of inspection shall be maintained.			
15	Dimensions & Tolerances	15.1 15.2 15.2.1	IS 5986:2017 IS 1730 IS 1852 IS/ISO 16160	Five	Each Cast	Each Control Unit	Unless otherwise agreed to between the supplier and the purchaser, standard dimensions of hot rolled steel plates, sheets, strips and flats shall confirm to those given in IS 1730.

PROFORMA FOR OBTAINING PRODUCTION DETAILS

Period covered	
Name of Licensee	
Name of Articles (s)	IS No.
Grade/Type/Size/Variety/Class/Rating	
Brand/Trade/Name(s) of Product covered under BIS Certification Mark	
Total production of the articles(s) licensed for certification marking	
Total production of the article(s) conforming to Indian Standard	
Production covered with BIS Certification Mark and its Value :	
a) Quantity	
Brand Name used on production covered under BIS Certification Mark	
Calculation of marking fee on unit-rate basis; Marking Fee per unit	
a) Unit	
b) Quantity covered with BIS Certification Mark	
c) Marking fee rounded off in whole rupees as obtained by applying unit rates given in (a) on quantity given in (b)	
Quantity not covered with BIS Certification Mark, if any.	
Reasons for such non-coverage	
Brand Name under which non-ISI goods were sold	
Quantity exported with BIS Standard Mark and its value	
Brand Name under which BIS Certified goods are exported	
Authentication by Chartered Accountant	