PRODUCT MANUAL FOR SPECIFICATION FOR ELECTROGALVANIZED HOT ROLLED AND COLD REDUCED CARBON STEEL SHEETS AND STRIPS ACCORDING TO IS 17404:2020

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.	**Product**	:	IS 17404:2020
	Title	:	Electrogalvanized Hot rolled and Cold reduced Carbon Steel Sheets and Strips
	No. of Amendments	:	0
2.	**Sampling Guidelines:**		
a)	**Raw material**	:	1)The base metal of electrogalvanized hot rolled carbon steel sheet and strip shall be as per IS 1079 or IS 5986 2)The base metal of electrogalvanized cold reduced carbon steel sheet and strip shall be as per IS 513 (Part 1) or IS 513 (Part 2) 3) The zinc used for galvanizing shall conform to any of the grades specified in IS 13229
b)	**Grouping guidelines**	:	Please refer Annex A
c)	**Sample Size**	:	**For Coating tests**- 500 mm x full width minmum **Physical/Chemical testing** is not required If base Metal is ISI marked. (If not please refer product manuals for IS 5986 or *IS 513 Parts 1 or 2)*
3.	**List of Test Equipment**	:	Please refer ANNEX –B
4.	**Scheme of Inspection and Testing**	:	Please refer ANNEX –C
5.	**Possible tests in a day:**		**All tests**
6.	**Scope of the Licence:**		
	“Licence is granted to use Standard Mark as per IS 17404:2020 with the following scope:		
	Name of the product		Electrogalvanized Hot rolled and Cold reduced Carbon Steel Sheets and Strips
	Type		Hot rolled and/or Cold Rolled … Sheets and/or Strips
	Coating Class and Type		EG 000, EG005 .. EG 100. Differential/Equal/Single Surface Coating
	Dimensions		Width ……

ANNEX A

GROUPING GUIDELINES

1. Grouping of product has been done based on Coating class and Type of coating (Uniform /Different coating mass) given on both surfaces of Sheet/Strip. Guidelines for drawing/testing of samples from each group are as under:

a) One sample of Highest class of coating to be drawn to cover the entire range as per table 1. (EG 100 is highest and EG000 is lowest class of coating)

b) Sample of differentially coated material may be tested to cover equally coated material and single-surface coated material.

c) Sample of equally coated material may be tested to cover single-surface coated material

2. It shall be ensured that the firm is having all the necessary manufacturing and testing facilities for the manufacture and testing of the sizes/grade designations to be included in the licence.

3. During the operation of licence, BO shall ensure that all the grade designations/ varieties covered in the license are drawn for independent testing on rotation over a period of time.

ANNEX B

List of Test Equipment

Major test equipment required to test as per the Indian Standard

Sl. No.	Test Equipment	Tests used in with Clause Reference
1	**XRF Method**: X Ray Fluorescence (XRF) apparatus as per IS 12860 (in case of differential coating coating mass to be determined by XRF method only) Or **Weight Loss (Gravimetric) Method**: Antimony Oxide, HCl, cotton cloth , Balance, Stop watch	Coating Mass cl 9.1.1
2	Bench vice, Mandrels	Coating Adherence cl 9.2
3	Vernier Calipers, Scale, Measuring Tape, Weighing scale, thickness guage	Dimensions,Shape and Tolerance (Clause 10)

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

No physical or chemical testing is required for base metal if the same is ISI marked. However, if non-ISI base metal is being used (e.g. by foreign manufacturers), the details of test facilities may be seen from IS 5986 (for HR material) and IS 513 Parts 1 or 2 (for CR Material)

ANNEX C

Scheme of Inspection and Testing

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 thespecification.

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

2. TEST RECORDS – The manufacturer shall maintain test records for the tests carried out to establish conformity.

3. PACKING & MARKING – The Standard Mark as given in the Schedule of the license and Licence Number (i.e. CM/L……) shall be incorporated on the top of each coil or package of sheets or on a tag attached to each coil or packet or on the Test Certificate (see 6)

3.1 Packing and 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. In addition, details of BIS website shall be marked as follows on each package or the test certificate: "For details of BIS certification please visit www.bis.gov.in".

4. CONTROL UNIT – For the purpose of this Scheme, a control unit is defined as material from produced from the same heat/cast/consignment of base metal, of the same grade of base metal, same coating mass and type of coating processed in a single shift (of not more than 8 hours).

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 2above.

5.1 All the production which conforms to the Indian Standards and covered by the licence should be marked with StandardMark.

6. TEST CERTIFICATE- For each consignment of BIS Certified material conforming to IS 17404:2020 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 so as to ensure that there is no violation of provisions of BIS Act, 2016. 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 bedefaced.

TABLE 1
Levels of control

(1)				(2)	(3)		
Test Details				**Test equipment requirement R: required (or) S: Sub-contracting permitted**	**Levels of Control**		
Cl.	**Requirement**	**Test Method**			**No. of Sample**	**Frequency**	**Remarks**
		Clause	**Reference**				
6.1, 6.2, 7, 8	Base Metal (Chemical and Physical Properties)		IS 5986/IS 513 part 1 or 2	S	One	Each cast/heat	In case the base metal for production of electro galvanized steel sheets/strips is ISI marked and received with test certificate, no further testing is required
6.3	Zinc		IS 13229	S	One	Each consignment	In case material is received with test certificate of the supplier, no further testing is required
9.1	Coating Mass	9.1 Table 1	IS 17404:2020	R	Three	Each Control Unit	
9.2	Coating Adherence	9.2 Table 2	IS 17404:2020	R	Three	Each Control Unit	
10	Dimensions, Shape and Tolerances	10	IS 17404:2020	R	One	One coil / 500 sheets (or part thereof)	

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 empaneled 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

(Para 6 of the Scheme of Inspection and Testing)

XYZ COMPANY

(Registered office Address and works address)

TEST CERTIFICATE FOR SPECIFICATION FOR Electrogalvanized Hot rolled and Cold reduced Carbon Steel Sheets and Strips

TEST CERTIFICATE No._____ DATE_____

To M/s_____

We certified that the material described below fully conforms to IS 17404:2020 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 LicenceNo.CM/L_____ are as indicated below against each order No.

(PLEASE REFER TO IS 17404:2020 FOR DETAILS OF SPECIFICATION REQUIREMENTS)

Test Results

Order No and Date	Designation of electrogalvanized steel Sheet/Strip	Batch number	Quantity	Chemical Composition of Base Metal												Coating Mass per surface
				C	Si	Mn	Ni	Cr	Mo	Ti	Nb	S	P	Se	Ta	N	

if required by purchaser

REMARKS

WAGON NO

TRUCK NO

FOR XYZ COMPANY

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