



उत्पाद मैनुअल
वाहनीय अनुप्रयोग के लिए तप्त - निम्नजी जस्तीकृत /जस्तिनीलित
इस्पात की चदर, प्लेट और पतियां - विशिष्ट
IS 18385:2023 के अनुसार

PRODUCT MANUAL
FOR
Hot-Dip Galvanized/Galvannealed Steel sheet, Plate and Strip
for Automotive Applications — Specification
ACCORDING TO IS 18385:2023

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.	मानक संख्या IS No.	:	IS 18385:2023
	शीर्षक Title	:	Hot-Dip Galvanized/Galvannealed Steel sheet, Plate and Strip for Automotive Applications — Specification
	संशोधनों की संख्या No. of amendments	:	NIL
2.	नमूना दिशानिर्देश Sampling Guidelines		

a)	कच्चा माल Raw material	: The zinc and zinc alloy ingots used for the galvanizing shall conform to any of the grades specified in IS 13229 or IS 209. Conformity of zinc and zinc alloy ingots may be established through supplier test certificate/test report from BIS recognized lab/empanelled lab or any other NABL accredited lab or in house testing/combination thereof. No testing is required if ISI marked 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	: For mechanical test: 1 metre in length For chemical test : 5 pieces of 5cm X 5cm Note: Dimensions, mass and visual examination of the full coil/sheet/plate/strip shall be done during factory 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 (incase 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)
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 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:	
	“Licence is granted to use Standard Mark as per IS 18385:2023 with the following scope:	

	Name of the product	Hot-Dip Galvanized/Galvannealed Steel sheet, Plate and Strip for Automotive Applications
	Type and Designation of Substrate (Steel Grade)	<i>Classified as given in Table 1 for coated steels with cold substrate and Table 2 for coated steels with hot-rolled substrate.</i> IGC270C, IGC270B..... (Cold Rolled Substrate) IGH270C, IGH290S.....(Hot Rolled Substrate) For zinc-iron alloy (A) product, to be read as "IAC" instead of "IGC" for Cold Rolled Substrate to be read as "IAH" instead of "IGH" for Hot Rolled Substrate
	Coating Mass Designation	<i>Classified as per Table 7</i> Galvannealed (A) (cold-rolled and hot- rolled substrate) – A25, A30, A35 etc. Galvanized (G) (cold- rolled and hot-rolled substrate) – G30, G40, G50 etc.
	Surface Quality	<i>As Coated Surface (AC)/ Improved Surface (B)/ Best Quality Surface (I)</i>
	Surface Finish Designation	D/C
	Product Dimensions	Steel sheet/Plate/Strip of Thickness: from ...mm to....mm, Width: From..... mm to.... mm, Length: fromm tom.

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

ANNEX-A

GROUPING GUIDELINES

For the purpose of Grant of Licence/Change in Scope of Licence, the following grouping guidelines shall apply:

a) On the basis of Type and Designation of Substrate (Steel Grade), the following grouping shall apply

i) For "**Cold Rolled Substrate**"

Group	Type	Grades/Designations	Sampling guidelines
1.	Mild steel sheet	 Increasing order of grade quality IGC270C, IGC270D, IGC270E, IGC270F, IGC260G	One sample of any size may be drawn for testing to cover all the sizes for which manufacturing and testing facility available. However, If sample is tested for grade of higher drawability (r) & stretch-ability (n), then the recommendation may include grades of lower drawability (r) & stretch-ability (n) also. ii) For example, Sample of IGC260G should be drawn to cover IGC260G to IGC270C.
		 Increasing order of grade quality IGCCR1, IGCCR2, IGCCR3, IGCCR4, IGCCR5, IGCCR6	One sample of any size may be drawn for testing to cover all the sizes for which manufacturing and testing facility available. However, If sample is tested for grade of higher drawability (r) & stretch-ability (n), then the recommendation may include grades of lower drawability (r) & stretch-ability (n) also. ii) For example, Sample of IGCCR6 should be drawn to cover IGCCR1 to IGCCR6.
2.	Bake-hardening type steel sheets	 Increasing order of grade quality IGC270B, IGC290B, IGC320B, IGC335B, IGC340B, IGC360B, IGC400B, IGC440B	One sample of any size may be drawn for testing to cover all the sizes for which manufacturing and testing facility available However, If sample is tested for grade of higher tensile strength then the recommendation may include lower Grades also. For example, Sample of IGC440B should be drawn to cover IGC270B to IGC440B.
3.	Interstitial free-high strength steel	 Increasing order of grade quality IGC280P, IGC330P, IGC335P, IGC340P, IGC360P, IGC370P, IGC380P, IGC385P, IGC390P, IGC440P 	One sample of any size may be drawn for testing to cover all the sizes for which manufacturing and testing facility available However, If sample is tested for grade of higher tensile strength then the recommendation may include lower Grades also. For example, Sample of IGC440P should be drawn to cover IGC280P to IGC440P.
4.	Commercial type steel sheet (solid	Increasing order of grade quality	One sample of any size may be drawn for testing to cover all the sizes for which manufacturing and testing facility available

	solution strengthening)	IGC340W, IGC370W, IGC390W, IGC440W, IGC490W, IGC540W, IGC590W	However, If sample is tested for grade of higher tensile strength then the recommendation may include lower Grades also. For example, Sample of IGC590W should be drawn to cover IGC340W to IGC590W.
5.	High strength low alloy	Increasing order of grade quality  IGC310LA, IGC320LA, IGC350LA, IGC380LA, IGC410LA, IGC440LA, IGC470LA, IGC510LA, IGC550LA, IGC590LA, IGC600LA, IGC700LA, IGC860LA	One sample of any size may be drawn for testing to cover all the sizes for which manufacturing and testing facility available However, If sample of grade of higher tensile strength is tested then the recommendation may include grades of lower minimum tensile strength also. For example, Sample of IGC860LA should be drawn to cover IGC310LA, to IGC860LA
6.	Dual phase steel	Increasing order of grade quality  IGC450Y, IGC490Y, IGC540Y, IGC590YL, IGC590Y, IGC780Y, IGC980YL, IGC980Y, IGC1180YL, IGC1180Y	One sample of any size may be drawn for testing to cover all the sizes for which manufacturing and testing facility available However, If sample of grade of higher tensile strength is tested then the recommendation may include grades of lower tensile strength also. For example, sample of any of the grades IGC1180Y should be drawn to cover IGC450Y to IGC1180Y.
		Increasing order of grade quality  IGC590YH, IGC780YH, IGC980YH, IGC1180YH	One sample of any size may be drawn for testing to cover all the sizes for which manufacturing and testing facility available However, If sample of grade of higher tensile strength is tested then the recommendation may include grades of lower tensile strength also. For example, sample of any of the grades ISC1180YH should be drawn to cover IGC590YH to IGC1180YH.
7.	Ferrite–bainite steel	Increasing order of grade quality  IGC440FB, IGC590FB 	One sample of any size may be drawn for testing to cover all the sizes for which manufacturing and testing facility available However, If sample of grade of higher tensile strength is tested then the recommendation may include grades of lower minimum tensile strength also. For example, sample of any size of the grade IGC590FB should be drawn to cover both IGC440FB and IGC590FB
8.	TRIP steel	Increasing order of grade quality IGC590T, IGC690T, IGC780T	One sample of any size may be drawn for testing to cover all the sizes for which manufacturing and testing facility available However, If sample of grade of higher tensile

			strength is tested then the recommendation may include grades of lower minimum tensile strength also. For example, sample of any size of the grade IGC780T should be drawn to cover IGC590T to IGC780T
9.	Complex phase steel	 Increasing order of grade quality IGC600N, IGC780N, IGC980N	One sample of any size may be drawn for testing to cover all the sizes for which manufacturing and testing facility available However, If sample of grade of higher tensile strength is tested then the recommendation may include grades of lower minimum tensile strength also. For example, sample of any of the grades IGC980N should be drawn to cover IGC600N to IGC980N.
10.	Martensite-type steel sheet	 Increasing order of grade quality IGC900M, IGC1100M, IGC1300M, IGC1500M	One sample of any size may be drawn for testing to cover all the sizes for which manufacturing and testing facility available However, If sample of grade of higher tensile strength is tested then the recommendation may include grades of lower minimum tensile strength also. For example, sample of any of the grades IGC1500M should be drawn to cover IGC900M to IGC1500M.

ii) For "**Hot Rolled Substrate**"

Group	Type	Grades/Designations	Sampling guidelines
1.	Mild steel sheet	 Increasing order of grade quality IGH270C, IGH270D, IGH270E	One sample of any size may be drawn for testing to cover all the sizes for which manufacturing and testing facility available However, If sample is tested for grade of higher elongation, then the recommendation may include lower Grades also. For example, Sample of IGH270E should be drawn to cover IGH270C to IGH270E.
2.	Commercial type steel sheet (solid solution strengthening)	 Increasing order of grade quality IGH290S, IGH310S, IGH330S, IGH360S, IGH370S, IGH400S, IGH410S, IGH440S, IGH490S	One sample of any size may be drawn for testing to cover all the sizes for which manufacturing and testing facility available However, If sample is tested for grade of higher tensile strength then the recommendation may include lower Grades also. For example, Sample of IGH490S should be drawn to cover IGH290S to IGH490S.
3.	High hole expansion ratio type steel sheet	IGH440FB	One sample of any size may be drawn for testing to cover all the sizes for which manufacturing and testing facility available

4.	High strength low alloy (high yield ratio type steel)	 Increasing order of grade quality IGH320LA, IGH360LA, IGH390LA, IGH410LA, IGH430LA, IGH450LA, IGH480LA, IGH500LA, IGH550LA, IGH600LA, IGH650LA, IGH700LA, IGH750LA	One sample of any size may be drawn for testing to cover all the sizes for which manufacturing and testing facility available However, If sample of grade of higher tensile strength is tested then the recommendation may include grades of lower minimum tensile strength also. For example, Sample of IGH750LA should be drawn to cover IGH320LA to IGH750LA
5.	High strength structural steel (HSLA type)	 Increasing order of grade quality IGH440R, IGH490R, IGH540R, IGH590R, IGH780R	One sample of any size may be drawn for testing to cover all the sizes for which manufacturing and testing facility available However, If sample of grade of higher tensile strength is tested then the recommendation may include grades of lower minimum tensile strength also. For example, sample of any of the grades IGH780R should be drawn to cover IGH440R to IGH780R

b) On the basis of Coating Mass Designation, the following grouping shall apply:

Group	Product Type	Coating Mass Designation	Sampling guidelines
1.	Galvannealed (A)	Increasing order of coating mass  A 25, A 30, A 35, A 40, A 45, A 50, A 55, A 60	If sample of higher coating mass is tested, then lower coating mass may also be covered For Example, Sample of A 60 should be drawn to cover A 25 to A 60
2.	Galvanized (G)	Increasing order of coating mass  G 30, G 40, G 50, G 60, G 70, G 90, G 100, G 140, G 275, G 350, G 450	If sample of higher coating mass is tested, then lower coating mass may also be covered For Example, Sample of G 450 should be drawn to cover G 30 to G 450

c) On the basis of Surface Quality, the following grouping shall apply

Group	Surface Quality	Sampling guidelines
1.	As Coated Surface (AC) Improved Surface (B) Best Quality Surface (I)	If sample higher quality surface is tested, then lower surface quality may also be covered For Example, Sample of Best quality surface (I) should be drawn to cover As coated surface (AC), Improved Surface (B) and Best quality surface (I)

d) On the basis of Surface Finish, the following grouping shall apply

Group	Surface Finish	Sampling guidelines
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1.	Dull finish D, C	If sample higher surface finish is tested, then lower surface finish may also be covered For Example, Sample of surface finish (C) should be drawn to cover surface finish (D) and surface finish (C)
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e) Samples of plate or sheet or strip of any size i.e. any thickness and dimensions (width, length) may be tested.

Scope of licence shall be restricted based on the manufacturing and testing facilities available.

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)

Sl. No.	Tests Used In With Clause Reference	Test Equipment/Chemical
1	Surface Finish, Cl. 4.5	Surface roughness tester
2	Chemical Composition, Cl. 7	Equipment and reagents for wet analysis as per method specified in the relevant parts of IS 228 or appropriate spectrometer for instrumental analysis (ICP-OES, Spark emission spectrometer etc.)
3	Tensile Test, Cl. 8.1	Universal testing machine with extensometer as per IS 1608 (Part 1)
4	Plastic Strain Ratio, Cl. 8.2	Universal testing machine with extensometer (for semi-automatic and automatic method) and device for the measurement of length and width after plastic straining and unloading of specified accuracy as per IS 11999
5	Tensile Strain Hardening Component (n - value), Cl. 8.3	Universal testing machine with extensometer and arrangement for measurement of Thickness and width as per IS 15756
6	Bake Hardening Index, Cl. 8.4	Universal testing machine with extensometer and furnace capable of maintaining 170 °C temperature
7	Hole Expansion Ratio, Cl. 8.5	Testing machine and testing tools for Hole Expansion Ratio test as per IS 17414
8	Bend Test, Cl. 8.6 (if required by purchaser)	Testing machines or presses equipped with the following devices as per IS 1599: a) bending device with two supports and a former as shown in Figure 1 of IS 1599; b) bending device with a V-block and a former as shown in Figure 2 of IS 1599; c) bending device with a clamp as shown in Figure 3 of IS 1599
9	Coating Mass, Cl. 9.1	<u>X-ray fluorescence technique method (IS 12860)</u> XRF apparatus consisting of an X-Ray source, and radiation detector in conjunction with electronic pulse amplitude discriminator and pulse counting (scaler) circuitry <u>Weight loss (gravimetric) method on a single surface (IS 6745)</u> Weighing balance of LC 0.01gm & Chemicals Alcohol , Solvent naptha /trichloroethylene, antimonytrioxide/ antimony trichloride, HCl (Sp Gr 1.16)

10	Coating Adherence, Cl. 9.2 (optional)	Steel Mandrels, UTM attachments/clamps/vice/Magnifying glass
11	Dimensions, shape and tolerances, Cl. 10	Measuring Tape, Vernier Calipers Filler gauge, flat bench, Micrometer, Cord
12	Mass, Cl. 19	Weighing Balance

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: Entire quantity of Steel sheet, Plate and Strip of the same cast/heat, same Type and Designation of Substrate (Steel Grade), same Coating Mass Designation, same Surface Quality, and same Surface Finish Designation manufactured under similar conditions in a day.

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 package and/or on the label attached to the coils and/or on the test certificate (see 4), provided always that the material so marked conforms to each requirement of the specification.

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

3.2 Additional Marking requirements: The material shall also be marked with the following additional requirement on each package and/or on the label attached to the coils and/or on the test certificate (see 4):

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

4. TEST CERTIFICATE – For each consignment of BIS Certified material conforming to IS 18385:2023 there shall be a test certificate which shall contain the Standard Mark, the Control Unit/Heat 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. 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.

TABLE 1
(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
4.5	Surface Finish		IS 18432 (Part 2) : 2023 (superseding IS 15262 : 2002)	R			
5.2	Non-Ageing Characteristics	5.2	IS 18385	S	As agreed between purchaser and supplier		
6.4	Zinc and zinc alloy ingots		IS 13229 or IS 209	S	One	Each consignment	Conformity of zinc and zinc alloy ingots may be established through supplier test certificate/test report from BIS recognized lab/empanelled lab or any other NABL accredited lab or in house testing/combination thereof. No testing is required if ISI marked
7	Chemical Composition of base metal						
7.1	Ladle Analysis		IS 228 or any other national/international standard for instrumental/chemical method	R	One	Each cast	Applicable for manufacturers having in-house steelmaking facilities (primary manufacturers)
7.2	Product Analysis		IS 228 or any other national/international standard for instrumental/chemical method	R	NIL	NIL	Not applicable for manufacturers having in-house steelmaking facilities (primary manufacturers)
			IS 228 or any other national/international standard for instrumental/chemical method	R	One	Each cast	In case the steel sheets/strips obtained for production of galvanized/galvannealed steel sheets/strips are ISI marked and received with test certificate, no further testing is required
8	Mechanical Properties						

8.1	Tensile Test		IS 1608 (Part 1)	R	One	Each control unit	
8.2	Plastic Strain Ratio (r-bar/r-90)		IS 11999	R	One	Each control unit	
8.3	Tensile Strain Hardening Component (n-value)		IS 15756	R	One	Each control unit	
8.4	Bake Hardening Index — (BH)	Annex B	IS 18385	R	One	Each control unit	
8.5	Hole Expansion Ratio — (HER)		IS 17414	R	One	Each control unit	
8.6	Bend Test (optional)		IS 1599	R*	One*	Each control unit*	*If agreed to between the manufacturer and the purchaser
9	Coating						
9.1	Coating Mass		IS 12860/IS 6745	R	One	Each control unit	
9.2	Coating Adherence**	9.2	IS 18385	R**	One**	Each control unit**	**as per discretion of the manufacturer or as per mutual agreement between the purchaser and the manufacturer.
10	DIMENSIONS, SHAPE AND TOLERANCES	10	IS 18385	R	Manufacturer shall ensure adequate inspections and in process controls to ensure compliance to the requirements of the standard		
11	FREEDOM FROM DEFECTS	11	IS 18385	R	Manufacturer shall ensure adequate inspections and in process controls to ensure compliance to the requirements of the standard		
14	Cracks due to strain ageing	14	IS 18385	R	Manufacturer shall ensure adequate inspections and in process controls to ensure compliance to the requirements		
15	Surface treatment	15	IS 18385	R	Manufacturer shall ensure adequate inspections and in process controls to ensure compliance to the requirements		
16	COIL BREAKS, STRETCHER STRAINS AND	16		R	Manufacturer shall ensure adequate inspections and in process controls to		

	BENDS (KINKS)				ensure compliance to the requirements of the standard	
17	WELDABILITY	17		R	Manufacturer shall ensure adequate inspections and in process controls to ensure compliance to the requirements	
19	MASS	19		R	Manufacturer shall ensure adequate inspections and in process controls to ensure compliance to the requirements of the standard	

ANNEXURE I

BIS
STANDARD
MARK

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

TEST CERTIFICATE FOR
Hot-Dip Galvanized/Galvannealed Steel sheet, Plate and Strip for Automotive Applications

TEST CERTIFICATE No. DATE
TO M/s

We certified that the material described below fully conforms to IS 18385:2023

Chemical, Physical and Mechanical properties of the product, as tested in accordance with the Scheme of Testing and Inspection contained in the BIS Certification Marks Licence No. CM/L- are as indicated below against each order No.

(PLEASE REFER TO IS 18385:2023 FOR DETAILS OF SPECIFICATION REQUIREMENTS)

Order No. & Date	Size	Control Unit	Grade	Quantity	Chemical Composition							Mechanical Properties							Dimension Shape Mass	Coating Thickness
					C	Mn	S	P	Cr	Mo	Ni	TS	YS	Elong	BH	HER	Plastic Ratio	Strain Hardening		

REMARKS
WAGON NO.
TRUCK NO.

FOR XYZ IRON AND STEEL COMPANY

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

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