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उत्पाद मैनुअल
पूर्व-रोगनित जिंक-एल्यूमिनियम-मैग्नीशियम मिश्रधातु लेपित इस्पात पत्ती और चादर
IS 19210: 2025 के अनुसार

Product Manual for
Pre-Painted Zinc-Aluminium-Magnesium Alloy Coated Steel Strip and Sheet
According to IS 19210: 2025

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 19210:2025
	शीर्षक Title	:	Pre-Painted Zinc-Aluminium-Magnesium Alloy Coated Steel Strip and Sheet
	संशोधनों की संख्या No. of amendments	:	0
2.	नमूना दिशानिर्देश Sampling Guidelines		
a)	कच्चा माल Raw material	:	The substrate for pre-painted zinc-aluminium-magnesium alloy coated steel strip and sheet shall conform to IS 18513. 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	:	2 pcs of 500 mm x 500 mm for complete 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	:	Product Designation, Durability Class, Coating Material, Coating Type, Dry Film Thickness, Color, Specular Gloss. 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 except Corrosion Resistance (Cl 8.5.1) & Humidity Resistance (8.5.2) 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 19210: 2025 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 19210: 2025 with the following scope:		
7.	उत्पाद का नाम Name of the product		Pre-Painted Zinc-Aluminium-Magnesium Alloy Coated Steel Strip and Sheet
	Product Designation (as per Cl 6)		The product designation shall follow the sequence below: a) Number of this Indian Standard (IS) b) Steel grade (see IS 18513) c) Coating Class (see IS 18513) d) Class of Durability of paint coating (see cl 7.3 of IS 19210) E.g IS 19210/IZMC510S/ZM150/CLASS1
	Durability Class		Class 1/Class 2/ Class 3/ Class 4/ Class 5
	Coating Material		Primer-E/A/PU/PE

		Top Coat/Finish Coat – RMP/SDP/SMP/PU/PVDF Backer Coat/Wash Coat – H/PU/PE/E/A
	Coating Type	Single Coat (Without Primer)/Two Coat/Multi Coat (With Primer)....
	Size	Sheets of sizes: (Thickness X width X length in mm) or Coils of sizes: (Thickness x Width in mm)
	Profiles (If applicable)	Requirements as declared by the manufacturer
	Other Properties (If required)	As per the special agreement between the purchaser and the manufacturer

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

ANNEX-A
TO PRODUCT MANUAL FOR
Pre-Painted Zinc-Aluminium-Magnesium Alloy Coated Steel Strip and Sheet
According to IS 19210:2025

GROUPING GUIDELINES

- 1) The product is classified into Class 1, Class 2, Class 3, Class 4 & Class 5 based on durability of Coating as given in Table 4 & Table 9 of IS 19210: 2025. The classification is based on durability of coating to withstand salt spray test and humidity resistance test. Class 5 being the most stringent Class based upon the duration of salt spray test and humidity resistance test. However, durability requirements are for manufacturer's information only and are not mandatory at the time of production/coating.
- 2) Requirement of minimum coating thickness is also given against each coating type under Table 2 -Dry Film Thickness (DFT)
- 3) Accordingly following Grouping Guideline is to be followed for grant of licence (GoL) and inclusion (CSoL):
 - a) One sample of each Durability Class of Paint Coating (Class 1, Class 2, Class 3, Class 4 and Class 5) of any size (thickness, width, length), shall be tested for all requirements of the standard to cover all sizes for that Durability Class.
 - b) The requirements of each profile (as per agreement between the manufacturer and purchaser) shall be declared by the manufacturer. Each profile shall be tested for all the requirements of IS 19210:2025 for the purpose of GoL/CSoL and shall be suitably reflected in the scope of the licence.
 - c) Manufacturer shall declare Coating Material as per Table 1, Dry film thickness as per Table 3, Color as per cl 8.3.1 & value of Specular Gloss as per Table 8 of IS 19210:2025 respectively.
- 4) Scope of licence shall be restricted based on the manufacturing and testing facilities available.
- 5) During the operation of the licence, BOs shall ensure that all designations/conditions/sizes covered in the scope of the licence are drawn for independent testing in rotation over a period of time.

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.	Test Equipment/Chemicals and Identification Numbers (Where applicable)	Tests Used in with Clause Reference
1	Micrometer Depth Gauge, Dial Depth Gauge, Reference Plate (Polished Glass Plate), DFT (Dry Film Thickness) tester	Dry Film Thickness, Clause 7.2
2	Bench Vice approximately 150 mm wide or alternative bending apparatus, Adhesive tape 20 mm to 25 mm wide which is semi-transparent, pressure sensitive, and has adhesion strength of 5N to 15 N per 24 mm width (Scotch 600 tape fits above specification), suitable cylindrical mandrels as per Table 6 of IS 19210:2025, 10X magnifying Glass	T-Bend Adhesion Test Clause, Cl 8.2.1
3	Pencil Hardness Tester, including various standard pencils of required hardness along with sharpener, Abrasive paper (grit no. 400), Level firm horizontal surface, spirit balance	Pencil Hardness Test, Clause 8.2.4
4	Impact Tester, Adhesive tape 20 mm to 25 mm wide which is semi-transparent, pressure sensitive, and has adhesion strength of 5N to 15 N per 24 mm width (Scotch 600 tape fits above specification), 10X magnifying Glass	Reverse Impact Test Clause 8.2.2
5	Cross Hatch Cutter (11x1) for checking paint adhesion, soft brush/tissue, 25 mm wide semi transparent pressure sensitive tape	Scratch Resistance test, Clause 8.2.5
6	Fume cupboard, Protective Gloves, Cotton Pad (50 mm square), Solvent (MEK or MIBK), Solvent Double Rub Machine, Cotton	Solvent Resistance Test, Clause 8.2.3
7	For Gloss as per Clause 8.3.2- 60 ° Gloss Meter For Colour as per Clause 7.3.2- Colour matching Cabinet with different lights. For high repeatability and reproducibility Spectrophotometer is recommended.	Appearance, Clause 8.3 Gloss Clause 8.3.2 Colour Clause 8.3.1
8	Requirement: 1. Salt Spray Cabinet, with a volume not less than 0.2m ³ as per IS 9844. The spray cabinet shall be sufficient big enough to accommodate all samples giving enough exposure. The sample stand to be there having an angle as close as possible to 20 o. The angle of exposure to be maintained within 15 o to 30o. The sample should not be placed in direct line with atomizer (as per	Salt Spray Test (Corrosion Resistance), Clause 8.5.1

	IS 9844) 2. The NaCl solution of required concentration. It should be ensured that test spray which has been sprayed should not be reused. 3. pH meter to measure the pH of the solution 4. Temperature to be maintained at 35 ± 2 °C as per IS 9844 5. Temperature controller with heating arrangement 6. Continuous supply of power to be ensured. 7. Arrangement for cleaning of samples need to available (As per IS 9844)	
9	Metal Panels of Mild Steel (as per IS 101 (Part 1/Sec 3)) Corrosion Cabinet (Relative Humidity of 100%, Temp: 42-48 deg Celsius) as per IS 101 (Part 6/Sec 1) Stove Degreasing Agent IS Grit No 180 Emery Cloth	Humidity Resistance, Clause 8.5.2
10	Requirement of Micrometer, Vernier Calliper, Meter Tape with valid calibration. Digital thickness gauge of sufficient resolution may also be used for very low thickness. Weighing balance of capacity more than 10 tonnes	Dimensions, Shapes and Tolerance Clause 9.1, 9.2, 9.4

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 during operation of BIS licence, manufacturers will implement a Quality Assurance Plan (QAP) 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 (QAP) defining the control unit (i.e. lot/batch etc.), the levels of control (i.e. the frequency and number of samples for conducting the different tests as per the Indian Standard) and declare the arrangement for testing i.e. whether in-house or subcontracting/sharing for each applicable test and submit the same to BIS Branch Office for information. The manufacturer shall comply with the QAP and maintain test records in accordance with para 2.1.

1.3 RECOMMENDED LEVELS OF CONTROL/CONTROL UNIT:

1.3.1 For the guidance of manufacturers, the recommended definition of control unit is: For the purpose of this scheme, all sheets and strips having same dimensions, designation, coating material used, coating type, colour and durability class of paint coating manufactured on a single line in a day 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. Manufacturer has the discretion of declaring their own levels of control or accept the levels of control given in this document.

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.

2. ENSURING COMPLIANCE THROUGH TESTING- manufacturers shall ensure compliance of their products to all the requirements of the Indian Standard for which they may have in-house test facilities. However, there is no obligation to maintain in-house laboratory. Licensee may use alternative arrangements for tests of the production as per the declared QAP. Various alternatives are available for operation of BIS certification as given below and the relevant guidelines for availing such relaxations by the manufacturers, as amended from time to time, are to be referred:

- i) Shared testing resources like common facility,
- ii) Cluster based testing facility,
- iii) Sub-contracting to outside laboratories which may either be:
 - a) BIS recognised/empanelled laboratories, or
 - b) Any accredited laboratory as per ISO/IEC 17025

2.1 TEST RECORDS- The manufacturers shall maintain test records for the tests carried out (either in-house or at a sub-contracted or at shared test facility) to establish conformity of the product to the Standard for operation of licence. For the tests being subcontracted or conducted at a shared test facility, test results issued by the laboratories or test facilities, shall be made 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 suitably incorporated on top of each coil or package of sheets or shown on a tag attached to each coil and/or on the Test Certificate accompanied along with each consignment, provided always that the product thus marked conform to all the requirements of the specification.

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

3.2 Additional Marking requirements: Additionally, the following shall also be marked on each package:

- 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 19210:2025 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 - 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
(Recommended Levels of Control by BIS- For Guidance Only)

(1)				(3)			(4)
TEST DETAILS				LEVELS OF CONTROL			REMARKS
Clause	Requirements	Test Method		No. of Samples	Frequency		
		Clause	Reference				
4.2	Profile	4.2	IS 19210	The pre-painted zinc-aluminium-magnesium alloy coated steel sheets of this standard may also be supplied in profiles based on mutual agreement between the purchaser and the manufacturer.			
5.1	Manufacture (Substrate for pre-painted Zinc-Aluminum-Magnesium Alloy Coated Steel Strip and Sheet as per IS 18513)	5.1	IS 19210 IS 18513	One	Each Consignment of same quality, dimensions and Designation	Each consignment of material to be supported with test certificate. No further testing is required is material is ISI marked.	
8.2	Physical Properties						
	T-Bend Adhesion Test	8.2.1	IS 19210, Annex-B	One	Each Unit	Control	—
	Reverse Impact Test	8.2.2	IS 19210, Annex-C	One	Each Unit	Control	—
	Solvent Resistance Test	8.2.3	IS 19210, Annex-D	One	Each Unit	Control	—
	Pencil Hardness Test	8.2.4	IS 19210, IS 101 (Part 5/Sec 1)	One	Each Unit	Control	—
	Scratch Resistance Test	8.2.5	IS 19210 IS 101 (Part 5/Sec 2)	One	Each Unit	Control	—
	Cross Hatch Test	8.2.5.1	IS 19210	One	Each Unit	Control	In place of scratch resistance test, cross hatch test can be applied, as

						per mutual agreement between the purchaser and the manufacturer
	Dry Film Thickness	7.2, 8.2.6, Table 2 & 3	IS 19210 ISO 2808	One	Each Control Unit	—
8.3	Appearance	8.3	IS 19210	Firm shall exercise adequate in process controls to ensure that each coil/sheet is free from physical imperfections. However, appropriate records shall be maintained by the manufacturer for evidence of conformity.		
8.3.1	Color Match	8.3.1	IS 19210 Table 7	One	Each Control Unit	Color shall match as agreed between the purchaser and the manufacturer.
8.3.2	Specular Gloss	8.3.2	IS 19210 IS 101 (Part 4/Sec 4)	One	Each Control Unit	Gloss of pre-painted metal product shall comply with the requirement as agreed between the purchaser and the manufacturer.
8.5.1	Corrosion Resistance (Salt Spray Test)	8.5.1	IS 19210 IS 5528 Table 9 & 10 Annex-E	One	Once in a year	Durability test requirements of this specification are provided for the information of the purchaser. These tests cannot be conducted on every individual lot. This test can be applied based on the mutual agreement between the purchaser and the manufacturer. Sampling and acceptance criteria are subject to mutual agreement. This test is applicable for the topcoat surface.
8.5.2	Humidity Resistance	8.5.2	IS 19210 IS 101 (Part 6/Sec 1)	One	Once in a year	
8.5.3	Corrosion Resistance-	8.5.3	IS 19210 ISO 14993	Acceptance criteria of this test is to be mutually agreed between the purchaser and the manufacturer.		

	Accelerated Cyclic Corrosion Test			
9	Dimensions, Shape and Tolerances	9.1 to 9.4	IS 19210 IS 16163	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.
10	Surface Defects	10.1 to 10.3	IS 19210	Firm to have adequate in-process controls to check compliance of this parameter given in the Indian Standard. However, appropriate records shall be maintained by the manufacturer for evidence of conformity.

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

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

Test Certificate for Pre-Painted Zinc-Aluminium-Magnesium Alloy Coated Steel Strip and Sheet
According to IS 19210:2025

TEST CERTIFICATE NO. _____

To M/s _____

Dated _____

We certified that the material described below fully conforms to IS 19210:2025. The 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 19210:2025 FOR DETAILS OF SPECIFICATION REQUIREMENTS)

TEST RESULTS

Order No. & Date	Designation	Control Unit/lot/batch number.	Size	Durability Class	Qty. (in tonnes)	Sheets/ Coil	T-Bend Adhesion	Reverse Impact Test	Solvent Resistance Test	Pencil Hardness Test	Scratch Resistance/ Cross Hatch Test	Dry Film Thickness	Appearance	Gloss	Corrosion Resistance	Humidity Resistance	Accelerated Cyclic Corrosion Test	Dimensions, Shape & Tolerances	Surface Defects	Remarks

Remarks
Wagon No.
Truck No.

FOR XYZ STEEL COMPANY

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