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उत्पाद मैनुअल

रंग रोगन, प्लास्टिक इमल्शन — विशिष्टि
IS 15489: 2024 के अनुसार

PRODUCT MANUAL FOR
Paint, Plastic Emulsion
ACCORDING TO IS 15489: 2024

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 15489: 2024
	शीर्षक Title	:	Paint, Plastic Emulsion रंग रोगन, प्लास्टिक इमल्शन - विशिष्टि
	संशोधनों की संख्या No. of amendments	:	Nil
2.	नमूना दिशानिर्देश Sampling Guidelines		
a)	कच्चा माल Raw material	:	No Specific requirements 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	:	Sample of each type and class intended to be covered in the scope of licence, is required to be tested
c)	नमूने का परिमाण Sample Quantity	:	4 litres 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)

3.	परीक्षण उपकरणों की सूची List of Test Equipment	:	Please refer to Annex- A कृपया Annex- A देखें
4.	निरीक्षण और परीक्षण की स्कीम Scheme of Inspection and Testing	:	Please refer to Annex- B कृपया Annex-सी देखें
5.	एक दिन में संभावित परीक्षण Possible tests in a day (on conditioned samples as applicable)		
	1. Composition 2. Condition in container 3. Thinning 4. Application Properties 5. Mass in kg/10 litre 6. Opacity 7. Consistency 8. Drying Time a) Surface Dry b) Hard Dry 9. Finish 10. Colour 11. Resistance to Alkali 12. Accelerated Storage Stability 13. Recoating properties 14. Volatile organic compound gm/litre 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 15489 :2024 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 15489 :2024 with the followingscope:		
	उत्पाद का नाम Name of the product	Paint, Plastic Emulsion	
	Type	Type-1 and/or Type-2	
	Class	a) Class A — Matt finish; and/or b) Class B — Egg shell/ satin finish; and/or c) Class C — Semi-glossy finish; and/or d) Class D — Glossy finish.	

ANNEX – A
LIST OF TEST EQUIPMENTS
(INDICATIVE LIST, FOR GUIDANCE ONLY)

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

Sl. No.	Tests used in with Clause Reference	Test Equipment
1.	Application properties, Cl 6.4	Brush, Spray and Roller, Water
2.	Mass in kg/10 litre, Cl 6.5	Pycnometer (metal or glass), Analytical Balance, Thermometer, temperature controlled chamber/ water bath (Ref: IS , 101 Part 1/Sec 7) , approved sample
3.	Opacity, Cl 6.6	concrete Panel prepared as prescribed in 7 of IS 101 Part 1/Sec 3, primer paint conforming to IS 109 of off-white/grey shade, specified colour specimen
4.	Fastness to Light, Cl 6.7 & Si vi of table 1	White unglazed art paper or concrete Panel prepared as prescribed in 7 of IS 101 Part 1/Sec 3, Xenon Arc Apparatus (Ref: IS 101 (Part 4/Sec 3)
5.	Durability test for exterior use only, Cl 6.8	concrete panels, Accelerated weathering apparatus (for accelerated weathering test), PH Meter
6.	Lead restriction, Clause 6.9	Atomic Absorption Spectroscopy Method Reagent - Nitric acid, Ammonium acetate Apparatus - Atomic absorption spectrophotometer, Muffle furnace, Hot plate, Glass beaker, Porcelain crucible Pipette, Dropping bottle, volumetric flask, filter paper Inductively Coupled Plasma- Optical Emission Method - Spectrometry Method Reagent - nitric acid, hydrogen peroxide, hydrochloric acid, Apparatus - Inductively Coupled Plasma- Optical Emission, Electric hot plate, Microwave, Glass beakers, Volumetric flasks, Analytical balance, distilled water and dilute, beaker, hot plate
7.	Consistency, Cl 6.11 (Table 1)	Palette Knife or Metal Rod, dry concrete panel
8.	Drying Time and Finish, Cl 6.11 (Table 1)	Concrete panels of 100 mm × 150 mm size For Surface Dry - Silver Sand, Soft haired brush, Paint Brush, Ballotini, Stop-Watch or Stop-Clock, Power Cable Paper (Ref: IS 101 Part 3/Sec 1)

9.	Gloss at 60 deg. C, CI 6.11 (Table 1)	Glossmeter, Measurement Standards, Test Panels (Ref: IS 101 Part 4/Sec 4), conditioning chamber
10.	Colour, CI 6.11 (Table 1)	Natural Daylight Illumination or Artificial illumination by means of colour matching booth, Luxmeter (Ref: IS 101 Part 4/Sec 2), arrangement to dry panel in standard atmospheric conditions of 27 °C ± 2 °C and 65 percent ± 5 percent relative humidity
11.	Fastness to Light, CI 6.11 (Table 1)	White unglazed art paper or Asbestos Cement Panel prepared as prescribed in 7 of IS 101 Part 1/Sec 3, Xenon Arc Apparatus, Calibration standards, Cardboard, Geometric grey scale (Ref: IS 101 (Part 4/Sec 3)
12.	Resistance to Alkali, CI 6.11 (Table 1)	Concrete panels of 150 mm × 100 mm size and having a pH of not less than 10, Alkali-Resistant Solvent-Based Primer, Phthalocyanine Blue Pigment Paste, Conditioning Chamber, 300 micron block spreader, nylon sponge, tray, phthalocyanine pigment paste (if emulsion paint under test is not coloured).
13.	Washability and clean ability, CI 6.11 (Table 1)	Wet Abrasion Tester, Soap Solution, oven, distilled water, ground glass panel 475 mm × 170 mm × 4 mm in size as prescribed in 5 of IS 101 (Part 1/Sec 3), film applicator, stove, No. 280 emery paper, Brush, distilled water, Fractional horse power motor
14.	Accelerated Storage Stability, CI 6.11 (Table 1)	500 ml metal containers (conforming to IS 1407), cold chamber, electrically heated oven
15.	Recoating Properties, CI 6.11 (Table 1)	dry concrete panel, Brush
16.	Volatile organic compound gm/litre	<u>Determination of Volatile Organic Compound (VOC) Content — Gas-Chromatographic Method</u> Gas Chromatograph, Injection syringe, Carrier gas, Detector gases, Auxiliary gas, Internal standard, Dilution solvent, Marker compound, <u>Determination of Volatile Organic Compound (VOC) Content — Difference Method</u> Flat-bottomed dish, Air oven, Analytical balance, Desiccator

ANNEX B

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. For the guidance of manufacturers, the recommended definition of control unit is: Paint of the same Type and Class produced in a batch mixer (after completion of all other operations) at a

1.3.1 For the guidance of manufacturers in preparing the Quality Assurance Plan, recommended levels of control are given in **Table 1**.

1.3.2 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 printed on each container and/or on the label applied to the container, provided always that the material in each container to which mark is thus applied conforms to every requirement of the specification.

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

3.2 Additional Marking requirements: The container/label on the container shall also be marked with the following additional requirement:

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

4. 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.

TABLE 1
(ONLY FOR GUIDANCE PURPOSE)

(1)				(2)	(3)		
Test Details				Test equipment requirement R: required (or) S: Subcontracting permitted	Levels of Control		
Cl.	Requirement	Test Method			No. of Sample	Frequency	Remarks
		Clause	Reference				
6.1	Composition	-	IS 15489	R	One	Each Control Unit	
6.2	Condition in container	-	-do-	R	-do-	-do-	
6.3	Thinning	-	-do-	R	-do-	-do-	
6.4	Application Properties	-	-do-	R	-do-	-do-	
6.5	Mass in kg/10 litre	-	IS 101(Pt 1/Sec 7)	R	-do-	-do-	
6.6	Opacity	-	IS 15489 IS 101 (Part 1/Sec 3)	R	-do-	-do-	
6.7	Fastness to light	-	IS 101 (Part 1/Sec 3)]/IS 101(Pt 4/Sec 3)	S	-do-	Once in six months	
6.8	Durability	Annex -C	IS 15489	S	-do-		for Exterior Use Only
6.9	Lead Restriction	-	IS 101(Pt 8/Sec 5)	S	One	Each Control Unit	
6.10	Keeping Properties	-	IS 15489	S	-do-	Once in a year	

6.10, 6.11 and 9.1 Table 1	i) Consistency	Annex B	IS 15489	R	-do-	Each Control Unit	
	ii) Drying Time a) Surface Dry b) Hard Dry	Annex D	IS 15489	R	-do-	-do-	
	iii) Finish	Annex D	IS 15489	R	-do-	-do-	
	iv) Gloss	-	IS 101(Pt.4/Sec 4)	R	-do-	-do-	
	v) Colour	Annex E	IS 15489	R	-do-	-do-	
	vi) Fastness to light	-	IS 101(Pt.4/Sec3)	S	-do-	Once in six months	
	vii)Resistance to Alkali	Annex F	IS 15489	R	-do-	Each Control Unit	
	viii) Wash ability and clean ability	Annex G	IS 15489	S	-do-	Once in a month	
	ix) Accelerated Storage Stability	Annex H	IS 15489	R	-do-	Every week	
	x) Recoating properties	Annex J	IS 15489	R	-do-	-do-	
	xi)Volatile organic compound gm/litre	-	IS 101 (Part 2/Sec 4) IS 101 (Part 2/Sec 3)	R	-do-	-do-	