



**PRODUCT MANUAL FOR
READY MIXED PAINT, BRUSHING, BITUMINOUS, BLACK, ACID, ALKALI, WATER AND
CHLORINE RESISTING
ACCORDING TO IS 9862:2017**

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 9862:2017
	Title	:	READY MIXED PAINT, BRUSHING, BITUMINOUS, BLACK, ACID, ALKALI, WATER AND CHLORINE RESISTING
	No. of Amendments	:	0
2.	Sampling Guidelines:		
a)	Raw material	:	No specific requirement
b)	Grouping guidelines	:	NA – No varieties of paint are specified in the Indian Standard
c)	Sample Size	:	4 X 500 ml minimum
3.	List of Test Equipment	:	Please refer ANNEX –A
4.	Scheme of Inspection and Testing	:	Please refer ANNEX –B
5.	Possible tests in a day :		
	(i)Consistency (ii)Wet opacity (iii)Flash point (iv)Volatile content (v)Mass in kg per 10		
6.	Scope of the Licence :		
	“Licence is granted to use Standard Mark as per IS 9862:2017 with the following scope:		
	Name of the product	READY MIXED PAINT, BRUSHING, BITUMINOUS, BLACK, ACID, ALKALI, WATER AND CHLORINE RESISTING	

ANNEX A

List of Test Equipment

Major test equipment required to test as per the Indian Standard

Sl. No.	Tests used in with Clause Reference	Test Equipment
1	Lead Restriction, 4.2	<ul style="list-style-type: none"> - Analytical balance - Filter paper (Whatman No. 42) - Oven - Centrifuge - (IS 101 Part 8 / Sec 5)
2	Drying Time, 4.3	<ul style="list-style-type: none"> - Mild Steel Panels as per Cl. 6.3.1 of IS 9862 - IS Sieves 150 and 300 micron - Silver sand - Soft Haired Brush - Stopwatch - Paint Brush - Power Cable Paper - (IS 101 Part 3 / Sec 1)
3	Consistency, 4.3	<ul style="list-style-type: none"> - Palette Knife/Metal Rod - Glass Panels
4	Finish, 4.3	<ul style="list-style-type: none"> - Mild Steel/Concrete/Wood Panel - Brush or Sprayer - Arrangement for drying panel in vertical position in dust free atmosphere - (IS 101 Part 3/Sec 4)
5	Wet Opacity, 4.3	<p><u>Method 1 (Black and White Charts)</u></p> <ul style="list-style-type: none"> - Substrate (Black and White Charts) - Film Applicators - Reflectometer - Template or die stamp <p><u>Method 2 (Polyester Film)</u></p> <ul style="list-style-type: none"> - Substrate (Polyester film) - Film Applicators - Reflectometer - Template or die stamp - Test plates <p><u>Method 3 (Pfund Cryptometer)</u></p> <ul style="list-style-type: none"> - Pfund Cryptometer - (IS 101 Part 4/Sec 1)
6	Mass in kg/10 litre, 4.3	<ul style="list-style-type: none"> - Metal or glass pycnometer - Analytical Balance with LC of 1 mg

		<ul style="list-style-type: none"> - Thermometer with LC of 0.2°C Temperature controlled chamber or Water Bath - (IS 101 Part 1: Sec 7)
7	Colour, 4.3	<ul style="list-style-type: none"> - Natural Daylight or Colour Matching Booth - Test Panels and Reference Standards - Thickness gauge - (IS 101 Part 4/Sec 2)
8	Flexibility and Adhesion (bend test of the film with dia Mandrel in type 1 apparatus)	<ul style="list-style-type: none"> - Bend Test Apparatus as per Type 1 - Controlled Temperature Chamber - Test Panels - Pressure Sensitive Tape - (IS 101 Part 5/Sec 2)
9	Stripping test, 4.3	<ul style="list-style-type: none"> - Test Panel as per 6.3.2 of IS 9862 - Scratch hardness test apparatus as prescribed in 3.2.2 of IS 101(Part 5/ Sec 2)
10	Flash point, 4.3	<ul style="list-style-type: none"> - Test Cup - Bath - Thermometers - Support (to hold test cup in bath) - (IS 101 Part 1/Sec 6)
11	Volatile matter content, 4.3	<ul style="list-style-type: none"> - Flat bottomed dish of glass, aluminium or tin plate - Thin glass rod of 100 mm approx. - Air oven (capable of 105 ±2°C) - Dessicator - Analytical Balance (1 mg LC) - (IS 101 Part 2/Sec 2)
12	Resistance to humidity under conditions of condensation, 4.3	<ul style="list-style-type: none"> - Metal Panels - Corrosion Cabinet - (IS :101 (Part 6/Sec 1)
13	Resistance to water	<ul style="list-style-type: none"> - Tinned Container (as per IS 916) with lever lid
14	Resistance to acid	<ul style="list-style-type: none"> - Glass panels of sizes 150 mm × 100 mm as prescribed in 5 of IS 101 (Part 1/Sec 3) - Paint Brush - Wax - Sulphuric Acid - Test Vessel - Conditioning Chamber
15	Resistance to alkali	<ul style="list-style-type: none"> - Glass panels of sizes 150 mm × 100 mm as prescribed in 5 of IS 101(Part 1/Sec 3) - Paint Brush - Wax - Anhydrous sodium carbonate

		<ul style="list-style-type: none"> - Test Vessel - Conditioning Chamber
16	Resistance to chlorine	<ul style="list-style-type: none"> - Glass container - Glass Panel - Chlorine Water
17	Water content (if water is suspected to present), 4.3	<p><u>Karl Fischer Method</u></p> <ul style="list-style-type: none"> - Karl Fischer Titrator with end point detection (as per 6 of IS 2362) - Electrically operated oven (capable of being controlled at 130°C) - Dessicator and dessicant - Karl Fischer reagent as prescribed in 5.7 of IS 2362 - Laboratory glassware and reagents as per IS 2362
18	Keeping Properties, 4.3	<ul style="list-style-type: none"> - Spatula - Nylon Paint brush - Test Surface: smooth surface paper chart coated with varnish or lacquer - (IS :101 (Part 6/Sec 2)

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

ANNEX B

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 the specification.

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

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

3. PACKING AND MARKING –The Standard Mark, as given in the Schedule of the license shall be printed on each container and on the label applied to the container; provided always that the material in each container on which this Mark is thus applied conforms to every requirement of the specification.

3.1 Packing and Marking shall be done as per the requirements of the standard. In addition, the following details shall be marked on labels affixed to each container:

i) Licence No. (CM/L.....)

ii) BIS website details: 'For BIS certification details please visit www.bis.gov.in' .

4. CONTROL UNIT –For the purpose of this scheme, total quantity of the paint manufactured in a batch mixer at a time shall constitute a control unit.

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 2 above.

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

5.1.1 A sample drawn from control unit of the material and tested, shall conform to all the requirements laid down in the specification. In the event of the failure of the sample in any one or more of the requirements the entire material in the control unit may either be rejected for the purpose of marking or it may be reprocessed and the defect (s) rectified. Such reprocessed material when tested again shall conform to all the requirements of the specification for relevant grade.

6. 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.

A separate record shall be maintained giving information relating to the rejection of units of product which do not conform to the specification and the method of their disposal. Such material, if packed, shall in no case be stored together with those conforming to the specification and Standard Mark(if already applied) on the rejected lots shall be removed/defaced.

TABLE 1

(1)				(2)	(3)		
Test Details				Test equipment requirement R: required (or) S: Sub-contracting permitted	Levels of Control		
Cl.	Requirement	Test Methods			No. of Sample	Frequency	Remarks
		Claus e	Reference				
4.2	Lead Restriction	-	IS 101 (Part 8/ Sec 5)	R	One	Each control unit	See clause 5 of SIT
4.3, Table 1	Drying Time a) Hard Dry	-	IS 101 (Part 3/ Sec 1)	R	One	Each control unit	
4.3, Table 1	Consistency	Annex B	IS 9862:2017	R	One	Each control unit	
4.3, Table 1	Finish	-	IS 101 (Part 3/ Sec 4)	R	One	Each control unit	
4.3, Table 1	Wet Opacity	-	IS 101 (Part 4/ Sec 1)	R	One	Each control unit	
4.3, Table 1	Mass in kg/10 litre	-	IS 101 (Part 1/ Sec 7)	R	One	Each control unit	
4.3, Table 1	Colour	-	IS 101 (Part 4/ Sec 2)	R	One	Each control unit	
4.3, Table 1	Flexibility and Adhesion (bend test of the film with dia	2	IS 101 (Part 5/ Sec 2)	R	One	Each control unit	

	Mandrel in type 1 apparatus)						
4.3, Table 1	Stripping test	Annex C	IS 9862	R	One	Each control unit	
4.3, Table 1	Flash point	-	IS 101 (Part 1/ Sec 6)	R	One	Each control unit	
4.3, Table 1	Volatile matter content	-	IS 101 (Part 2/ Sec 2)	R	One	Each control unit	
4.3, Table 1	Resistance to humidity under conditions of condensation	2	IS 101 (Part 6/ Sec 1)	S	One	Once in a month	
4.3, Table 1	Resistance to water	Annex D	IS 9862	S	One	Once in a month	
4.3, Table 1	Resistance to acid	Annex E	IS 9862	S	One	Once in a month	
4.3, Table 1	Resistance to alkali	Annex F	IS 9862	S	One	Once in a month	
4.3, Table 1	Resistance to chlorine	Annex G	IS 9862	S	One	Once in a month	
4.3, Table 1	Water content (if water is suspected to present)	-	IS 101 (Part 2/ Sec 1)	S	One	Once in a month	
4.3, Table 1	Keeping Properties	-	IS 101 (Part 6/ Sec 2)	S	One	Once in a year	
5	Packing and marking	5	IS 9862	S	One	Each control unit	No testing is required if the containers are received with manufacturer's/supplier's test certificate indicating conformity to the

							requirements of Indian Standard or if they are ISI marked
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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 to BO head.