

**PRODUCT MANUAL FOR
SPECIFICATION FOR COATED PAPER AND BOARD
(ART AND CHROMO)
According to IS 4658:2019**

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 Title	:	IS 4658: 2019 SPECIFICATION FOR COATED PAPER AND BOARD (ART AND CHROMO)
	No. of amendments	:	1
2.	Sampling Guidelines		
a)	Raw material	:	NA
b)	Grouping Guidelines	:	Please refer Annex - A
c)	Sample Size	:	100 Sheet
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	:	Burst Index, Wax Pick, Gloss Percentage, Brightness, Surface PH, Stiffness, Thickness, Substance, Smoothness PPS, Bulk, Dimension (Sizes)
6.	Scope of the Licence : Licence is granted to use Standard Mark as per IS 4658:2019 with the following scope:		
	Name of the product		Coated Paper and Board (Art and Chromo)
	Type		<i>Gloss finish or Matt finish</i>
	Substance		

**ANNEXURE A
TO PRODUCT MANUAL FOR
Coated Paper and Board (Art and Chromo)
According to IS 4658 :2019**

GROUPING GUIDELINES

The grouping guidelines is prepared on the basis of substance (GSM). One Sample each of coated paper or board of Lowest substance (GSM) and highest substance (GSM) shall be tested to cover entire range of substance (GSM) of coated paper or board declared.

However, separate samples of art paper/board, and chromo paper/board need to be drawn and tested to cover both varieties i.e. art and chromo, of coated paper and board. **Separate samples shall also be drawn for each type of paper or board intended to be covered in the licence i.e. for Matt finish or Gloss finish.**

It shall be ensured that the manufacturer has the requisite testing and manufacturing facilities for producing the varieties to be covered in the licence.

During the operation of the licence, samples of all the varieties covered shall be drawn in rotation.

**ANNEXURE B
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LIST OF TESTING EQUIPMENT

Major test equipment required to test as per requirement of Indian Standard.

Sl. No.	Test Equipments	Test Used with Cl. Reference
1	Burst Strength Tester	Burst Test, Cl. No. 5.5, Table 1 &2
2	Dennison Standard paper testing waxes	Wax Pick Test, Cl. No. 5.5, Table 1 &2
3	Spirit Lamp/Gas burner	Wax Pick Test, Cl. No. 5.5, Table 1 &2
4	Wooden Block	Wax Pick Test, Cl. No. 5.5, Table 1 &2
5	pH Meter	Surface PH, Cl. No. 5.5, Table 1 &2
6	pH Buffer Tablet (Min 2 pH)	Surface Ph, Cl. No. 5.5, Table 1 &2
7	Distilled Water	Surface PH, Cl. No. 5.5, Table 1 &2
8	Ingersol Glarimeter (for paper of low gloss <15%) or Photoelectric Reflection Meter (for paper of high gloss: 15-75%) or any other suitable type of Gloss measurement apparatus	Gloss, Cl. No. 5.5, Table 1 &2
9	Visual or photoelectric type reflectometer, Primary and Working Standards	Brightness, Cl. No. 5.5, Table 1 &2
10	Stiffness testing M/c	Stiffness, Cl. No. 5.5, Table 2

11	PPS Tester	Smoothness PPS Test, Cl. No. 5.5, Table 1 & 2
12	Dead weight micrometer fitted with dial gauge accurate to 0.01 mm or micrometer with dial gauge correct to 0.0005 in., Sheet Holder	Thickness, Bulk, Cl. No. 5.5, Table 1 & 2
13	Picking velocity test apparatus	Picking velocity (optional), Cl. No. 5.5, Table 1 & 2
14	Weighing balance	Substance, Bulk, Cl. No. 5.5, Table 1 & 2
15	Measuring Tape	Measuring Size Cl. No 3.5
16	Measuring Scale	Measuring Size, Cl. No 3.5
17	Humidity Chamber	Conditioning

Note:

1. This is an indicative list for the purpose of guidance only and may not be treated as exhaustive

**ANNEXURE C
TO PRODUCT MANUAL FOR
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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 equipment.

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 stenciled or printed on each ream or packet or reel of white printing or printed on the label applied to it in such a way that the mark is destroyed on opening the ream or reel; provided always that the paper in the ream or reel so marked conforms to all the requirements of the specification.

3.1 Packing and Marking of the product shall be done as per the provisions of IS 4658. In addition the following particulars shall be marked on each package marked with Standard Mark.

- a) BIS Licence No. CM/L.....
- b) BIS website details : www.bis.gov.in

4. CONTROL UNIT – For the purpose of this scheme the material produced or packed on a particular coating machine continuously during a day shall constitute a control unit.

4.1 On the basis of test and inspection results decision regarding conformity or otherwise of the control unit as whole with the requirements of the specification as follows:

- 4.1.1 In Case of failure of any of the samples, the production belonging to the corresponding period shall be considered unfit for the purpose of marking. From the subsequent manufacture, the frequency of the sampling shall be doubled and samples tested for requirements where failures have occurred. The original frequency shall be resumed when two consecutive samples thus drawn are found meeting the relevant requirements.
- 4.1.2 One Ream/hour shall be examined for formation, finish and visual defects, as well as size & shall satisfy the requirements as given in the specification. In case the lot is found defective it shall be segregated and not used for marking.

5.0 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.

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. Any rejected material which is potentially resalable shall be deformed in such a manner that it cannot be used for any other purpose. A separate record shall be maintained giving information relating to all such rejections/defective/substandard 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

SCHEME OF INSPECTION AND TESTING
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 Methods			No. of Sample	Frequency	Remarks
		Clause	Reference				
5.1	General	5.1	IS 4658	R	Each reel/sheet		
5.2	Thickness	7	IS 1060	R	6 reams/ree ls	Each Control Unit	Samples to be collected at regular intervals
5.3	Substance	6	IS 1060 (Pt1)	R	-do-	-do-	-do-
5.4	Size	4	IS 1064	R	-do-	-do-	-do-
5.5 Table 1	Requirement for coated paper						
i)	Burst Index		IS 1060 (Pt 6/ Sec 2)	R	6 reams/ree ls	Each Control Unit	Samples to be collected at regular intervals
ii)	Wax Pick	8	IS 1060 (Pt 3)	R	-do-	-do-	-do-
iii)	Surface pH	9	IS 1060 (Pt 3)	R	-do-	-do-	-do-
iv)	Gloss percent	15	IS 1060 (Pt1)	R	-do-	-do-	-do-
v)	Brightness (on coated side)	13	IS/ISO 2470 (Pt 1)	R	-do-	-do-	-do-
vi)	Smoothness PPS	Annex B	IS 4658	R	-do-	-do-	-do-
vii)	Bulk	8	IS 1060 (Pt1)	R	-do-	-do-	-do-
viii)	Cobb value		IS 1060 (Pt 5/ Sec 4)	R	-do-	-do-	-do-
vi)	Picking velocity (optional)		IS 1060 (Pt 5/	S	As agreed between purchaser and manufacturer		

			Sec 9)				
5.5 Table 2	Requirement for coated board						
i)	Burst Index		IS 1060 (Pt 7/ Sec 1)	R	6 reams/ree ls	Each Control Unit	Samples to be collected at regular intervals
ii)	Wax Pick	8	IS 1060 (Pt 3)	R	-do-	-do-	-do-
iii)	Surface pH	9	IS 1060 (Pt 3)	R	-do-	-do-	-do-
iv)	Gloss percent	15	IS 1060 (Pt1)	R	-do-	-do-	-do-
v)	Brightness (on coated side)		IS/ISO 2470 (Pt 1)	R	-do-	-do-	-do-
vi)	Smoothness PPS	Annex B	IS 4658	R	-do-	-do-	-do-
vii)	Stiffness factor	Annex C	IS 4658	R	-do-	-do-	-do-
viii)	Bulk	8	IS 1060 (Pt1)	R	-do-	-do-	-do-
ix)	Picking velocity (optional)		IS 1060 (Pt 5/ Sec 9)	S	As agreed between purchaser and manufacturer		

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 B.O. Head.