



उत्पाद मैनुअल

रंग - रोगन कोलतार एपोकसी, दो पैक, काला तथा (बेस तथा कठोरक)

14948: 2001 के अनुसार

**PRODUCT MANUAL
FOR PAINT COAL TAR EPOXY, PAINT COAL TAR EPOXY, TWO PACK, BLACK AND BROWN
(BASE AND HARDNER)
ACCORDING TO IS 14948: 2001**

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 14948: 2001
	शीर्षक Title	:	Paint coal tar epoxy, two pack, black and brown (Base and Hardner)
	संशोधनों की संख्या No. of amendments	:	Nil
2.	नमूना दिशानिर्देश Sampling Guidelines		
a)	कच्चा माल Raw material	:	No specific requirement 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	:	Not applicable

c)	नमूने का परिमाण Sample Quantity	:	1Litre Hardner and 1Litre Base 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 therequired 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
4.	निरीक्षण और परीक्षण की स्कीम Scheme of Inspection and Testing	:	Please refer to Annex-B
5.	एक दिन में संभावित परीक्षण Possible tests in a day		
	i) Preliminary Examination ii) Drying time (Surface dry) iii) Flash point iv) Dry Film thickness 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 14948: 2001 with the following scope:		
	Name of the product	Paint coal tar epoxy, two pack, black and brown (Base and Hardner)	

BUREAU OF INDIAN STANDARDS
MANAK BHAVAN,9, BAHADUR SHAH ZAFAR
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ANNEX A**List of Test Equipment*****(INDICATIVE LIST, FOR GUIDANCE ONLY)***

Sl. No.	Tests used in with Clause Reference	Test Equipment
1	Composition	
	Epoxy Resin Content In Non-Volatile Vehicle	Centrifuge, Oven, Furnace, methyl isobutyl ketone (MIBK) and xylene.
	Epoxy Content (Weight Per Epoxide Equivalent) Of Epoxy Resins	Magnetic Stirrer, Magnetic Stirring Bars, Chloroform-Chlorobenzene Mixture, Crystal Violet Indicator Solution, Glacial Acetic Acid, Hydrobromic Acid HBr, Hydrogen Bromide, Erlenmeyer flask, burette
2	Finish, Table 1 S.No (ii) (IS 101 Part 3/Sec 4)	Abrasive blasted steel panel, Brush or Sprayer, Arrangement for drying panel in vertical position in dust free atmosphere, Approved sample, Opacity tester
3	Drying Time, Table 1 S.No. (iii) (IS 101 Part 3 / Sec 1)	Mild Steel Panels, Silver sand, IS Sieves 150 and 300 micron, Stopwatch, Soft Haired Brush, Paint Brush, chamber with arrangement to maintain standard atmospheric conditions of 27 +/- 2°C and 60 +/- 5 percent relative humidity, Panel stand, Weighing balance, Arrangement to measure an angle of 20°,
4	Flexibility and Adhesion (bend test of the film with dia Mandrel in type 1 apparatus) (IS 101 Part 5/Sec 2)	Bend Test Apparatus as per Type 1 of 1.5 mm and 6.25 mm dia of the mandrel on burnished tinplate panel, Controlled Temperature Chamber as per CI 2.2.4 of IS 101 Part 5/Sec 2

5	Impact test paint system	Falling weight apparatus with - Base stand - Falling weights - Vertical guide tube - Die - Clamping sleeve - Stops - Viewing lens
6	Dry film thickness, microns/per coat (IS 101 Part 3 / Sec 2)	Test Panel, Micrometer/ dial guage /coat meter/ Profile measuring microscope,
7	Volume solids, percent, <i>Min</i> (IS 101 Part 8/ Sec 6)	Volume Solid disk (Stainless Steel Disc), Analytical Balance , Hot air Oven, Beaker, mass per litre cup Weight Box,
8	Gel time, h, <i>Max</i>	Wooden Probe, Paint can, Stop Watch,
9	Flash point, C (IS 101 Part 1/ Sec 6)	Flash point Apparatus, Test Cup, Bath, Thermometer, Support (to hold test cup in bath)
10	Pot life, h, <i>Min</i>	Stirring rod, Stop Watch, Paint can
11	Resistance to corrosion	Artificial Sea water as per Annex F of IS 14948: 2001, Aquarium tank as per F-4.3 of IS with non metallic support, pH Meter, MS Steel Panel conforming to type DD of IS 513. Paraffin Wax, Humidity chamber, Arrangement for grit blasting, cast iron grit Grade No. GC 60
12	Resistance to sea water under cathodic protection conditions	Apparatus per Annex G-2.1 of IS 14948: 2001, mild steel panels conforming to type DD of IS 513, Artificial Sea water as per Annex F, Sea water tank as per G-5.2

13	Keeping Properties for the both packs	All of the Above.
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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: The paint coal tar epoxy (Base or Hardener) produced in a batch mixer (after completion of all other operations) at a time.

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 License 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/empaneled 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 license shall be incorporated legibly and indelibly on each container and/or on the label applied to the container 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 container and/or on the label applied to the container.

a) "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: Sub-contracting permitted	Levels of Control		
Cl.	Requirement	Test Methods			No. of Sample	Frequency	Remarks
		Clause	Reference				
4.1	Composition	Annex B and Annex C	IS 14948	R	Firm to have adequate in-process controls to check compliance of this parameter as per the limits and tolerances given in the Indian Standard. However, appropriate records shall be maintained by the manufacturer for evidence of conformity		
4.3	Requirements of Coal tar epoxy paint						
S.No. i)	Preliminary examination	-	IS 101 (Part 1/Sec 2)	R	One	Each Control Unit	
S.No. ii)	Finish	-	IS 101 (Part 3/Sec 4)	R	-do-	Each Control Unit	
S.No. iii)	Drying time	-	IS 101 (Part 3/Sec 1)	R	-do-	Each Control Unit	
S.No. iv)	Flexibility and adhesion	-	IS 101 (Part 5/Sec 2)	R	-do-	Once a week	
S.No. v)	Impact test paint system	-	IS 101 (Part 5/Sec 3)	R	-do-	Once a week	
S.No. vi)	Dry film thickness	-	IS 101 (Part 3/Sec 2)	R	-do-	Each Control Unit	
S.No. vii)	Volume solids	-	IS 101 (Part 8/Sec 6)	R	-do-	Each Control Unit	

S.No. viii)	Gel time	Annex D	IS 14948	R	-do-	Once a week	
S.No. ix)	Flash point	-	IS 101 (Part 1/Sec 6)	R	-do-	Each Control Unit	
S.No. x)	Pot life	Annex E	IS 14948	R	-do-	Alternate days	
S.No. xi)	Resistance to corrosion	Annex F	IS 14948	S	-do-	Once in six months	
S.No. xii)	Resistance to sea water under cathodic protection conditions	Annex G	IS 14948	S	-do-	Once in Six months	
4.2	Keeping properties	All the above-mentioned tests of table 1 as per IS 14948: 2001		R/S	-do-	Once in a year	‘R’ applicable for inhouse tests and ‘S’ applicable for outsourced tests