



उत्पाद मैनुअल
औद्योगिक बिटुमन – विशिष्टि
702 : 2022 के अनुसार

PRODUCT MANUAL FOR
INDUSTRIAL BITUMEN - SPECIFICATION
ACCORDING TO IS 702 : 2022

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 702: 2022
	शीर्षक Title	:	औद्योगिक बिटुमन - विशिष्टि Industrial Bitumen - Specification
	संशोधनों की संख्या No. of amendments	:	2
2.	नमूना दिशानिर्देश Sampling Guidelines		
a)	कच्चा माल Raw material	:	See Cl.5 The material shall be prepared from petroleum residue, source shall be stated by the manufacturer. 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	:	Each Grade to be tested separately
c)	नमूने का परिमाण Sample Quantity	:	10 Kg 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)
d)	परीक्षण अनुरोध में घोषित किए जाने वाले पैरामीटर Parameters to be Declared in Test Request	Grade 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	: कृपया Annex-A देखें Please see Annex – A
4.	निरीक्षण और परीक्षण की स्कीम Scheme of Inspection and Testing	: कृपया Annex-B देखें Please see Annex – B
5.	एक दिन में संभावित परीक्षण Possible tests in a day	
	i. Specific Gravity ii. Flash Point iii. Softening Point iv. Penetration v. Ductility vi. Loss on Heating vii. Matter soluble in trichloroethylene. 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 readyreference 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 702 : 2022 with the following scope:	
	उत्पाद का नाम Name of the product	Industrial Bitumen
	Grade	85/40 and/or 85/25 and/or 90/15 and/or 115/15 and/or 135/10 and/or 155/6

ANNEX – A

List of test equipments

(INDICATIVE LIST, FOR GUIDANCE ONLY)

Sr. No.	Tests used in with Clause Reference	Test equipment
1.	Table 1, Sl No (i) -Specific Gravity (IS 1202)	(i) Method A-(Pyknometer Method) - Specific gravity bottles of 50 ml capacity. One of the two types of specific gravity bottles, namely: (a) the ordinary capillary type specific gravity bottle with a neck of 6 mm diameter (see Fig. 1A) and (b) the wide-mouthed capillary type specific gravity bottle (see Fig. 1B) with a neck of 25 mm diameter shall be used. -Stopper -Constant temperature bath -Bath thermometers as specified in Cl 3.2.3 of IS 1202 -Air Conditioner (ii) Method B-(Balance Method) -Analytical balance -Thermometer as specified in Cl 3.2.3 of IS 1202 -Balance straddle -Thread -Brass Moulds -Oven -Glycerine and dextrin
2.	Table 1, Sl No (ii) Flash Point as per IS 1448 (Part 69)	Cleveland open cup apparatus as per Annex A of IS 1448 (Part 69) - Shield to cover at least 3 sides of the cup - Temperature measuring device as per Annex B of IS 1448 (Part 69) - Barometer, accurate to 0.5 kPa with a resolution of 0.1 kpa. - Cleaning solvents, verification liquids, steel wool etc
3.	Table 1, Sl No (iii) Softening Point (IS 1205)	-Ring and Ball Apparatus as per Cl 4.1 of IS 1205 -Thermometer as per Cl 4.1.5 of IS 1205 -Bath as per Cl 4.1.6 of IS 1205 -stirrer -Sieve -Glycerine and dextrine -Scale -Stop watch -Sharp Knife
4.	Penetration (IS 1203)	-Container as per Cl 3.1 of IS 1203 -Needle as per Cl 3.2 of IS 1203 -Water Bath with thermostat. Cap. 10 litres

		-Transfer Dish -Penetration apparatus -Thermometer as per 3.6 of IS 1203 -Air conditioner -Time Device -Heating device -Weighing balance
5.	Ductility (IS 1208)	-Mould as per Cl 4.1 of IS 1208 (Part 1) -Water Bath. Cap. 10 litres -Testing Machine - A suitable thermometer/digital temperature probe with least count 0.1 °C may be used) -Air conditioner -Heating device -Stop watch -Brass Plate -Glycerine and dextrin -Straight edge putty-knife or spatula
6.	Loss on Heating (IS 1212)	- Oven as per Cl 4.1 of IS 1212 - perforated metal shelf as per Cl 4.2 of IS 1212 -Thermometer as per Cl 4.3 of IS 1212 -Timing device -Weighing Balance
7.	Matter soluble in trichloroethylene (IS 1216)	Method-A (For Asphaltic Bitumen) - Gooch Crucible - Conical Glass Flask - of 200-ml - Trichloroethylene conforming to IS 245 -Heating device -Stirrer -Asbestos -Weighing machine -Dropper -Timing device - oven Method-B (For Native Asphalts) -Glass Tap Funnel -Glass Plate -Glass Funnel -Filter papers -Trichloroethylene conforming to IS 245 -Oven -Weighing Balance -Stop watch

ANNEX B

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, the entire quantity of Industrial Bitumen of the same grade manufactured at one time from a particular charge of raw material 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 licence, shall be printed using suitable ink by flexography or gravure printing or stenciling on each container of the product, provided always that the product so marked conform to 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 container of the product

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

4. 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)				(2)		
Test Details				Levels of Control		
Cl.	Requirement	Test Method Cl. Ref.	Test Method IS	No. of Sample	Frequency	Remarks
Table 1 Requirements of Industrial Bitumen (Cl 6 and 7)						-
i)	Specific gravity at 27°C		IS 1202	One	Each Control Unit	See Note 1
ii)	Flash point, Cleveland open cup		IS 1448 (Part 69)	One	Each Control Unit	See Note 1
iii)	Softening point		IS 1205	One	Each Control Unit	See Note 1
iv)	Penetration at 25°C		IS 1203	One	Each Control Unit	See Note 1
v) (a)	Loss on heating		IS 1212	One	Each Control Unit	See Note 1
v) (b)	Penetration of the residue at 25°C		IS 1203	One	Each Control Unit	See Note 1
vi)	Ductility at 27°C		IS 1208 (Part 1)	One	Each Control Unit	See Note 1
vii)	Matter soluble in trichloroethylene		IS 1216	One	Each Control Unit	See Note 1

Note-1: In case there is a failure, two or more samples shall be tested from the same control unit for that requirement. If there is any further failure, the control unit shall not be considered fit for marking.