



उत्पाद मानुयल
बिटुमेन एडिशन के लिए एंटी स्ट्रिपिंग पदार्थ विशिष्टि
14982: 2022 के अनुसार

PRODUCT MANUAL FOR
ANTI-STRIPPING AGENTS FOR BITUMEN ADDITION-SPECIFICATION
ACCORDING TO IS 14982: 2022

भारतीय मानक ब्यूरो (अनुरूपता मूल्यांकन) विनियम 2018 की स्कीम-I के तहत यह उत्पाद मानुयल प्रमाणीकरणके प्रचलन में रीति और पारदर्शिता के सुसंगत सुनिश्चित करने के लिए सभी क्षेत्रीय/शाखा कार्यालयों एवं लाइसेन्स धारियों द्वारा संदर्भ सामग्री के रूप में उपयोग किया जाएगा। बीआईएस लाइसेन्स/प्रमाण पत्र प्राप्त करने के इच्छुक भावी आवेदकों द्वारा भी इस दस्तावेज़ का उपयोग किया जा सकता है।

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.	मानक संख्या IS No.	:	IS 14982 : 2022
	शीर्षक Title	:	Anti-Stripping Agents for Bitumen Addition — Specification
	संशोधन संख्या No. of Amendments	:	1
2.	नमूनाकरण दिशा निर्देश 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)	समूहिकरण दिशा निर्देश Grouping guidelines	:	Please refer Annex -A
c)	नमूनेका परिमाण Sample Quantity	:	2 litre/2 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 (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)
d)	परीक्षण अनुरोध में घोषित किए जाने वाले पैरामीटर Parameters to be Declared in Test Request		Liquid/Powder form
3.	परीक्षण उपकरणों की सूची List of Test Equipment	:	Please see Annex – B
4.	निरीक्षण व परीक्षण स्कीम Scheme of Inspection and Testing	:	Please see Annex – C
5.	एक दिन में संभावित परीक्षण Possible tests in a day :		
	Specific gravity, Pour Point, Flash Point, Water Content, Under water coating test with maximum 1 percent anti-stripping agent (Active adhesion) for spray work and Retained Coating with bitumen containing maximum 1.0 percent of anti-stripping agent 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.	लाइसेन्स का कार्यक्षेत्र / Scope of the Licence:		
	“Licence is granted to use Standard Mark as per 14982 : 2022 with the following scope:		
	उत्पाद का नाम Name of the product	Anti-Stripping Agents for Bitumen Addition — Specification	
	Product Form	Liquid/Powder form	
	Application	For bituminous surfacing (Sprayed work/Premixed surfacing)	

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ANNEX-A

GROUPING GUIDELINES

1. As per Cl 9.1, Anti-stripping agents can be used for the following two applications: a) For bituminous Surfacing (Sprayed work) and b) For Bituminous Surfacing (Premixed Surfacing)
2. Separate samples shall be drawn and tested for Bituminous Surfacing (Sprayed work) and Premixed Surfacing to cover the specific application in the scope of the licence.
3. Scope of licence shall be restricted based on the manufacturing and testing facilities available.

ANNEX – B
List of test equipment
(INDICATIVE LIST, FOR GUIDANCE ONLY)

Sr. No.	Tests used in with Clause Reference	Test equipment
1.	Specific gravity, Cl. 5.2	<u>METHOD A</u> Specific gravity bottles of 50 ml Constant Temperature Bath Bath Thermometer OR <u>METHOD B (BALANCE METHOD)</u> Balance Analytical Thermometer Balance Straddle Thread — A length of fine, waxed, silk thread Brass Moulds — Cubical, measuring approximately 20 mm on each edge.
2.	Pour point °C, Max Cl. 5.2	Test jar, Temperature measuring device Digital contact thermometer (DCT) Liquid-in-glass thermometers Cork, Jacket Disc, Gasket Cooling baths Timing device
3.	Flash point Cl. 5.2	<u>METHOD A (PENSKY-MARTENS — CLOSED)</u> Pensky — Martens Closed Tester Cup — Made of brass Lid — The lid, including (1) stirring device, (2) cover proper, (3) shutter, and (4) flame-exposure device, Cover proper Shutter Flame-exposure device Stove <u>METHOD B (PENSKY-MARTENS - CLOSED),</u> Flash Point Tester Thermometer <u>METHOD C (PENSKY-MARTENS - OPEN)</u>

		Appratus as per clause 6.1 of IS 1209
4.	Water content Cl. 5.2	Flask — 500 ml capacity Condenser — Made of heat resistant glass Receiver — Made of heat resistant glass Heater — Electric heater must be used Solvent
5.	Thermal stability Cl. 5.2	Use cut-back bitumen MC-3000 (4 parts of bitumen and one part of kerosene) for spray work and only bitumen for premix. Hot Air Oven
6.	Under water coating test with maximum 1 percent anti-stripping agent (Active adhesion) for spray work Cl. 5.2	Anti-stripping agent Bitumen MC-3000 Tin container of 1litre capacity 22.4 mm sieve and 22.4 mm sieve Distilled water Water bath
7.	Retained Coating with bitumen containing maximum 1.0 percent of anti-stripping agent Cl. 5.2	22.4 mm sieve and 11.2 mm sieve Hot air Oven Hot plate casserole Spatula Tray 500 ml beaker Stopwatch
8.	Indirect tensile strength ratio, Cl. 5.2 and Wet Strength , Cl. 5.2	Hot Air Oven Hot Plate Water Bath Balance — Suitable for weighing the test samples in air and water Transfer Plates — Sufficient number of flat steel plates of sufficient size to keep the test samples.

ANNEX C
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: The entire quantity manufactured at a time from the same consignment of raw material shall be considered as one 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 incorporated legibly and indelibly on each container of the product, provided always that the product so marked conform to requirements of the specification.

3.1 Marking shall be done as per Cl 8 and Storage as per Cl 10 of 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.		No. of Sample	Frequency	Remarks
5.1	Description	5.1	IS 14982	One	Each Control Unit	
5.2 & Table 1	Specific gravity at 27°C		IS 1202	One	Each Control Unit	
-do-	Pour Point°C		IS 1448 (P:10/Sec 2)	One	Each Control Unit	
-do-	Flash Point°C		IS 1209	One	Each Control Unit	
-do-	Water content		IS 1211	One	Each Control Unit	
-do-	Thermal Stability at 163°C	Annex A	IS 14982	One	Each Control Unit	
-do-	Under water coating test with maximum 1 percent anti-stripping agent (Active adhesion) for spray work	Annex B	-do-	One	Each Control Unit	
-do-	Retained Coating with bitumen containing maximum 1.0 percent of anti-stripping agent (boiling water test for 30 min), Min	Annex C	-do-	One	Each Control Unit	
-do-	Indirect tensile strength ratio, Min	Annex D	-do-	One	Each Control Unit	
-do-	Wet Strength , Min	Annex D	-do-	One	Each Control Unit	