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भारतीय मानक

बिटूमैन आधारित नमदे — परीक्षण पद्धतियाँ

भाग 2 आनम्यता परीक्षण

Indian Standard

BITUMEN BASED FELT — METHODS OF TEST

PART 2 PLIABILITY TEST

(Incorporating Amendment No. 1)

UDC 691.165 : 620-176.24

BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

Price Group 1

FOREWORD

This Indian Standard was adopted by the Bureau of Indian Standards, after the draft finalized by the Water-proofing and Damp-proofing Sectional Committee had been approved by the Civil Engineering Division Council.

Bitumen felts may be of different types depending upon the raw material used and their construction. IS 1322 : 1993 'Specification for bitumen felts for water-proofing and damp-proofing (*fourth revision*)' and IS 1793 : 1993 'Specification for glass fibre base coal tar pitch and bitumen felts (*first revision*)', covers bitumen felts of hessian based and glass fibre base respectively. The above standards require amongst other requirements, detailed testing of each of these products. Various methods of test relating to each product for determination of physical properties have been included in the separate standards. All types of felts have to satisfy some common essential physical requirements for which methods of test are same. A series of standards covering methods of test have therefore been formulated to cover the determination of various physical requirements of bitumen felt. This standard covers pliability test. Other parts of this standard are as follows:

Part 1 Breaking strength test
Part 3 Storage sticking test
Part 4 Pressure head test
Part 5 Heat resistance test
Part 6 Water absorption test
Part 7 Determination of binder content

The composition of the technical committee responsible for the formulation of this standard is given in Annex A.

This edition 1.1 incorporates Amendment No. 1 (August 1999). Side bar indicates modification of the text as the result of incorporation of the amendment.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Indian Standard

BITUMEN BASED FELT — METHODS OF TEST

PART 2 PLIABILITY TEST

1 SCOPE

This standard (Part 2) covers method for the determination of pliability of bitumen based felts.

2 REFERENCE

2.1 The Indian Standard IS 4911 : 1986 'Glossary of terms relating to bituminous water-proofing and damp-proofing of buildings', is necessary adjunct to this standard.

3 TERMINOLOGY

3.0 For the purpose of this standard, the definitions given in IS 4911 : 1986, in addition to the following, shall apply.

3.1 Pliability

Pliability of a felt is the resistance of the felt against damage or crack on being unrolled on a fairly smooth and flat surface.

4 APPARATUS

4.1 A metallic mandrel of diameter ranging from 50.0 mm to 75.0 mm made from a piece of pipe or bar of the correct diameter, slotted in such a manner that one end of the felt strip can be inserted.

4.2 Arrangement to obtain the required temperature to condition the samples depending upon the type of felt as specified, in the relevant Indian Standard.

5 PROCEDURE

5.1 Preparation of Sample

Ten test pieces, 25 mm wide and at least 250 mm long shall be cut from each of the samples, five in longitudinal direction and five in the transverse direction.

5.2 Conditioning

The test pieces in each direction shall be conditioned for 3 hours at the required temperature and immediately tested.

5.3 Procedure

The test pieces shall be wound round a mandrel at a uniform speed of 25 mm/s. The strip shall be placed on a plain surface, the loose end held down by suitable clamp, and the mandrel then rolled over the felt to bend it at the required speed maintaining contact with the mandrel surface throughout. Unrolled test piece shall be checked for any crack and rupture.

6 REPORTING

It shall be reported whether the roll shows any cracks or rupture exceeding 5 mm after unrolling.

ANNEX A

(*Foreword*)

Composition of Water-proofing and Damp-proofing Sectional Committee, CED 41

Chairman	*Representing*
PROF M. S. SHETTY	In Presonal Capacity *(No. 4 Sapan Baug, Near Empress Garden, Pune 411001)*
Members	
CAPT AHOK SHASTRY	Osnar Chemical Pvt Ltd, Bombay
SHRI S. K. BANERJEE (*Alternate*)	
SHRI T. CHAUDHURY	National Test House (ER), Calcutta
SHRI B. MANDAL (*Alternate*)	
DIRECTOR (DESIGN)	National Building Organization, New Delhi
SHRI D. C. GOEL	Central Road Research Institute, New Delhi
SHRI A. K. GUPTA	Engineers India Ltd, New Delhi
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SHRI A. K. GUPTA	Metro Railway, Calcutta
SHRI K. RAJGOPALAN (*Alternate*)	
SHRI M. B. JAYAWANT	Synthetic Asphalts, Bombay
SHRI MOIZ S. KAGDI	Polyseal India Engineering Centre, Bombay
SHRI SUREN M. THAKKER (*Alternate*)	
SHRI M. K. KANCHAN	Central Public Works Department, CDO
SHRI K. D. NARULA (*Alternate*)	
BRIG V. K. KANITKAR	Engineer-in-Chief's Branch, Army Headquarters, New Delhi
SHRI C. S. S. RAO (*Alternate*)	
SHRI M. H. KHARTI	Overseas Water-proofing Corporation Ltd, Bombay
SHRI A. BOSE (*Alternate*)	
SHRI V. P. KAPOOR	Fosroc India Ltd, Bangalore
SHRI V. NATRAJAN (*Alternate*)	
SHRI H. C. MATAI	Building Materials & Technology Promotion Council, New Delhi
SHRI M. M. MATHAI	Cempire Corporation, Madras
SHRI R. D. NAYAK	Bharat Petroleum Corporation Ltd, Bombay
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COL D. V. PADSALGIKAR (*Retd*)	B. G. Shirke & Co, Pune
SHRI R. P. PUNJ	Lloyd Bitumen Products Pvt Ltd, Calcutta
SHRI A. K. SEN (*Alternate*)	
SHRI RAVI WIG	MES Builders Association of India, New Deihi
SHRI K. K. MADHOK (*Alternate*)	
SHRI T. K. ROY	STP Ltd, Calcutta
SHRI B. B. BANERJEE (*Alternate*)	
SHRI SAMIR SURLAKER	MC-Bauchemic (India) Ltd, Bombay
SHRI JAYANT DEOGAONKAR (*Alternate*)	
SHRI R. SARABESWAR	Integrated Water-proofing Ltd, Madras
SR DEPUTY CHIEF ENGINEER	Public Works Department, Government of Tamil Nadu
SUPTDG ENGINEER (MADRAS CIRCLE) (*Alternate*)	
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SHRI J. S. SHARMA	Central Building Research Institute (CSIR), Roorkee
SHRI R. S. RAWAT (*Alternate*)	
SHRI SRAMAL SENGUPNA	Projects and Development India Ltd, Dhanbad
SHRI U. R. P. SINHA (*Alternate*)	
SHRI Y. R. TANEJA	Director General, BIS (*Ex-officio Member*)
Director Incharge (Civ Engg)	

Secretary
SHRI J. K. PRASAD
Joint Director (Civ Engg)

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