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# MALAYSIAN STANDARD

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MS 161 : 1994

ICS : 75.140

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**SPECIFICATION FOR CATIONIC BITUMEN EMULSIONS  
FOR USE IN PAVEMENT APPLICATIONS  
(FIRST REVISION)**



**SIRIM**

STANDARDS & INDUSTRIAL RESEARCH INSTITUTE OF MALAYSIA

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This Malaysian Standard, which had been approved by the Petroleum and Gas Industry Standards Committee and endorsed by the Board of the Standards and Industrial Research Institute of Malaysia (SIRIM) was published under the authority of the SIRIM Board in December, 1994.

SIRIM wishes to draw attention to the fact that this Malaysian Standard does not purport to include all the necessary provisions of a contract.

The Malaysian Standards are subject to periodical review to keep abreast of progress in the industries concerned. Suggestions for improvements will be recorded and in due course brought to the notice of the Committees charged with the revision of the standards to which they refer.

The following references relate to the work on this standard:

Committee reference : SIRIM 482/2/8-1

Draft for comment : D3 (ISC H)R

Amendments issued since publication

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### Committee representation

The Consumer Products and Safety Industry Standards Committee under whose supervision this Malaysian Standard was prepared, comprises representatives from the following Government Ministries, trade, commerce and manufacturer associations and the scientific and professional bodies.

Electrical Supply Department (JBE)  
 Esso Production Malaysia Ind.  
 Department of Occupational Health and Safety  
 Federation of Malaysian Consumers Associations (FOMCA)  
 Fire Services Department  
 Malaysian International Chamber of Commerce and Industry (MICC)  
 Malaysian Plastic Manufacturers Association (MPMA)  
 Ministry of Domestic Trade and Consumers Affairs  
 Petroleum Nasional Berhad  
 Public Works Department (JKR)  
 Road Transport Department (JPJ)  
 Shell Malaysia  
 The Institution of Engineers, Malaysia

The Working Group on Bitumen and Bituminous Products which prepared this Malaysian Standard consists of the following representatives:

Ir. Mohd Shafii Hj. Mustafa (CHairman)	Institut Kerja Raya Malaysia
Encik Zulakmal Sufian	Institut Kerja Raya Malaysia
Encik G. Balasundram	Institut Kerja Raya Malaysia
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Cik Agnes Yoong	Shell Malaysia Trading Sdn. Bhd.
Encik Chan Chong Hin	MBP (M) Sdn. Bhd.
Encik Ng Teck Guan	Damanjaya Industries Sdn. Bhd.
Encik Choong Thean Kean	Asphalt Technology Sdn. Bhd.
Encik David Lee	Sussen (M) Sdn. Bhd.
Cik S.H. Cheah	Asphalt Industries Sdn. Bhd.
Encik Sutiman Kemin	Standards and Industrial Research Institute of Malaysia
Puan Khatijah Hashim (Secretary)	Standards and Industrial Research Institute of Malaysia

**FOREWORD**

This Malaysian Standard was prepared by the Working Group on Bitumen and Bituminous Products established under the authority of Petroleum and Gas Industry Standards Committee.

This standard was first published in 1973 as MS 161 'Specification for bitumen emulsions for use in pavement application'. The main changes featured in this first revision are :

- (1) Requirements for anionic emulsions are excluded as this type of emulsions are not used in pavement applications.
- (2) SS 1Kh grade of cationic emulsion is also excluded since it is not in used in Malaysia so as to reflect local practices.
- (3) One extra grade of rapid-setting cationic bitumen emulsion, RS-0K is being included.
- (4) 'Storage stability test' replaced 'settlement test' to be in line with ASTM D2397-86.

In this revision, references were made to :

- (1) BS 434 : Part 1 : 1984 'Specification for bitumen road emulsions'
- (2) ASTM D2397-85 'Specification for cationic emulsified asphalt'

This standard supersedes MS 161:1973 'Specification for bitumen emulsions for use in pavement applications'.