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(ICS 75.140; 91.060.20; 91.120.30)

SINGAPORE STANDARD

Specification for bituminous emulsion for roof waterproofing

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Foreword

This Singapore Standard was prepared by the Working Group on Bituminous Emulsion for Roof Waterproofing appointed by the Technical Committee on Petroleum Processes and Products under the direction of the Chemical Standards Committee.

This is a revision of the SS 133: 1987 (1998) 'Specification for bituminous emulsion for roof waterproofing'. This revision has been prepared principally to bring the standard in line with international standards and to update the test methods.

The principal changes in this revised standard are as follows:

- (a) Update of classification of bituminous emulsion to align with ASTM D1227-13. The classification has been streamlined to two types of bituminous emulsions for brush and/or spray applications in Table 1.
- (b) Introduction of 'set-to-touch time' characteristic and test method in Table 2 and Annex G respectively.
- (c) Introduction of alternative method to measure residue by evaporation using moisture balance analyser in Annex D.
- (d) Replacement of open-cup method with closed-cup method in Annex E.

In preparing this specification, reference was made to the following publications:

- | | | |
|----|----------------------|---|
| 1. | ASTM D93 - 06 | Standard test methods for flash point by Pensky-Martens closed cup tester |
| 2. | ASTM D140/D140M - 16 | Standard practice for sampling asphalt materials |
| 3. | ASTM D244- 09 | Standard test methods and practices for emulsified asphalts |
| 4. | ASTM D1227-13 | Standard specification for emulsified asphalt used as a protective coating for roofing |
| 5. | ASTM 1640/D1640M -14 | Standard test methods for drying, curing, or film formation of organic coatings |
| 6. | ASTM D2939-2003 | Standard method of testing emulsified bitumen used as a protective coating |
| 7. | ASTM D6934-08(2016) | Standard test method for residue by evaporation of emulsified asphalt |
| 8. | ASTM D7404 -7(2016) | Standard test method for determination of emulsified asphalt residue by moisture analyzer |

The revised standard adapted materials, with permission from ASTM D1640/D1640M-14 Standard Test Methods for Drying, Curing, or Filming Formation of Organic Coatings and ASTM D7404-07 (2016) Standard Test Method for Determination of Emulsified Asphalt Residue by Moisture Analyzer, copyright ASTM International, 100 Barr Harbor Drive, West Conshohocken PA 19428.

Acknowledgement is made for the use of information from the above publications.

Attention is drawn to the possibility that some of the elements of this Singapore Standard may be the subject of patent rights. Enterprise Singapore shall not be held responsible for identifying any or all such patent rights.

NOTE

- 1. Singapore Standards (SSs) and Technical References (TRs) are reviewed periodically to keep abreast of technical changes, technological developments and industry practices. The changes are documented through the issue of either amendments or revisions. Where SSs are deemed to be stable, i.e. no foreseeable changes in them, they will be classified as "mature standards". Mature standards will not be subject to further review unless there are requests to review such standards.*
- 2. An SS or TR is voluntary in nature except when it is made mandatory by a regulatory authority. It can also be cited in contracts making its application a business necessity. Users are advised to assess and determine whether the SS or TR is suitable for their intended use or purpose. If required, they should refer to the relevant professionals or experts for advice on the use of the document. Enterprise Singapore and the Singapore Standards Council shall not be liable for any damages whether directly or indirectly suffered by anyone or any organisation as a result of the use of any SS or TR. Although care has been taken to draft this standard, users are also advised to ensure that they apply the information after due diligence.*
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Specification for bituminous emulsion for roof waterproofing

1 Scope

This Singapore Standard covers bituminous emulsions capable of being sprayed on or brush-applied in relatively thick films as part of a waterproofing system for roof surfaces with inclines of not less than 1 in 70.

2 Normative references

The following referenced documents are indispensable for the application of this standard. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ASTM D93	Standard test methods for flash point by Pensky-Martens closed cup tester
ASTM D140/140M	Standard practice for sampling asphalt materials
ASTM D1227	Standard specification for emulsified asphalt used as a protective coating for roofing
ASTM D6934	Standard test method for residue by evaporation of emulsified asphalt