

Australian Standard[®]

Bitumen for pavements

STANDARDS
Australia



This Australian Standard® was prepared by Committee CH-025, Bitumen and Related Products (for Roadmaking). It was approved on behalf of the Council of Standards Australia on 18 October 2013.

This Standard was published on 18 November 2013.

The following are represented on Committee CH-025:

- ARRB Group (Australian Road Research Board)
 - Australian Asphalt Pavement Association
 - Australian Chamber of Commerce and Industry
 - Australian Institute of Petroleum
 - AUSTROADS
 - Engineers Australia
 - National Association of Testing Authorities Australia
 - Roading New Zealand
 - Transit New Zealand
-

This Standard was issued in draft form for comment as DR 700 2008.

Standards Australia wishes to acknowledge the participation of the expert individuals that contributed to the development of this Standard through their representation on the Committee and through the public comment period.

Keeping Standards up-to-date

Australian Standards® are living documents that reflect progress in science, technology and systems. To maintain their currency, all Standards are periodically reviewed, and new editions are published. Between editions, amendments may be issued.

Standards may also be withdrawn. It is important that readers assure themselves they are using a current Standard, which should include any amendments that may have been published since the Standard was published.

Detailed information about Australian Standards, drafts, amendments and new projects can be found by visiting www.standards.org.au

Standards Australia welcomes suggestions for improvements, and encourages readers to notify us immediately of any apparent inaccuracies or ambiguities. Contact us via email at mail@standards.org.au, or write to Standards Australia, GPO Box 476, Sydney, NSW 2001.

Australian Standard[®]

Bitumen for pavements

First published as AS A10—1938.
Third edition 1967.
Revised and redesignated AS 2008—1977.
Fourth edition 2013.

COPYRIGHT

© Standards Australia Limited

All rights are reserved. No part of this work may be reproduced or copied in any form or by any means, electronic or mechanical, including photocopying, without the written permission of the publisher, unless otherwise permitted under the Copyright Act 1968.

Published by SAI Global Limited under licence from Standards Australia Limited, GPO Box 476, Sydney, NSW 2001, Australia

ISBN 978 1 74342 623 4

PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee CH-025 Bitumen and Related Products (for Roadmaking), to supersede AS 2008—1997, *Residual bitumen for pavements*.

After consultation with stakeholders in both countries, Standards Australia and Standards New Zealand decided to develop this Standard as an Australian Standard rather than an Australian/New Zealand Standard.

This Standard is one of a series relating to material for roadmaking purposes. Other Standards in the series are as follows:

AS

1160 Bitumen emulsions for construction and maintenance of pavements

2157 Cutback bitumen

3568 Oils for reducing the viscosity of residual bitumen for pavements

The main changes in this edition of the Standard are the following:

- (a) Removal of the Class 50 bitumen grade.
- (b) Inclusion of two new standard bitumen grades [Class 240 (C240), and Class 450 (C450)].
- (c) Inclusion of two multigrade bitumen grade [Multigrade 500 (M500) and Multigrade 1000 (M1000)].

These modifications reflect changes in the types of bitumen grades used for roadmaking purposes in Australia.

Bitumen grades are predominately specified in terms of their viscosities at 60°C and 135°C and penetration results at 25°C. These parameters are included in the Standard to ensure that bitumens show appropriate viscosity temperature behaviour for effective use in the construction and maintenance of pavements. Test properties are also determined after bitumen samples have been subjected to the Rolling Thin Film Oven (RTFO) treatment to indicate the bitumen properties that may be expected when bitumens are incorporated into asphalt pavement mixes.

This edition also allows the use of ASTM D2872, *Standard Test Method for Effect of Heat and Air on a Moving Film of Asphalt (Rolling Thin Film Oven Test)*, for RTFO treatment of bitumen samples and ASTM D92, *Standard Test method for Flash and Fire Points by Cleveland Open Cup Tester*, for measurement of bitumen flashpoint.

Statements expressed in mandatory terms in notes to tables are deemed to be requirements of this Standard.

CONTENTS

	<i>Page</i>
SECTION 1 SCOPE AND GENERAL	
1.1 SCOPE.....	4
1.2 REFERENCED DOCUMENTS.....	4
1.3 DEFINITION.....	5
1.4 SAFETY DISCLAIMER	5
SECTION 2 CLASSIFICATION AND PROPERTIES	
2.1 CLASSIFICATION	6
2.2 PROPERTIES.....	6
2.3 HOMOGENEITY AND FREEDOM FROM IMPURITIES.....	6
2.4 FOAMING.....	6
2.5 SAMPLING.....	7
2.6 LABELLING	7

STANDARDS AUSTRALIA

Australian Standard
Bitumen for pavements

SECTION 1 SCOPE AND GENERAL

1.1 SCOPE

This Standard specifies requirements for bitumen intended for use in the construction and maintenance of pavements.

1.2 REFERENCED DOCUMENTS

The following documents are referred to in this Standard:

AS

- | | |
|---------|---|
| 2341 | Methods of testing bitumen and related roadmaking products |
| 2341.2 | Method 2: Determination of dynamic viscosity by vacuum capillary viscometer |
| 2341.3 | Method 3: Determination of kinematic viscosity by flow through a capillary tube |
| 2341.4 | Method 4: Determination of dynamic viscosity by rotational viscometer |
| 2341.7 | Method 7: Determination of density using a density bottle |
| 2341.8 | Method 8: Determination of matter insoluble in toluene |
| 2341.12 | Method 12: Determination of penetration |
| 2341.14 | Method 14: Determination of flashpoint of bitumen |

AS/NZS

- | | |
|---------|---|
| 2341 | Methods of testing bitumen and related roadmaking products |
| 2341.5 | Method 5: Determination of apparent viscosity by 'Shell' sliding plate micro-viscometer |
| 2341.10 | Method 10: Determination of the effect of heat and air on a moving film of bitumen (rolling thin film oven (RTFO) test) |
| 2341.13 | Method 13: Long-term exposure to heat and air |
| 2341.20 | Method 20: Determination of sieve residue for bituminous materials |

ASTM

- | | |
|-------|---|
| D92 | Standard Test Method for Flash and Fire Points by Cleveland Open Cup Tester |
| D2872 | Standard Test Method for Effect of Heat and Air on a Moving Film of Asphalt (Rolling Thin-Film Oven Test) |