AS 3568:2020

Australian STANDARD®

Oils for reducing the viscosity of bituminous binders for pavements

STANDARDS Australia

AS 3568:2020

This Australian Standard® was prepared by CH-025, Bitumen and Related Products (for Roadmaking). It was approved on behalf of the Council of Standards Australia on 26 June 2020.

This Standard was published on 10 July 2020.

The following are represented on Committee CH-025:

Australian Airports Association
Australian Asphalt Pavement Association
Australian Chamber of Commerce and Industry
Australian Institute of Petroleum
Australian Road Research Board
Austroads
Department of Transport (Vic)
National Association of Testing Authorities Australia

This Standard was issued in draft form for comment as DR AS 3568:2020.

Keeping Standards up-to-date

Ensure you have the latest versions of our publications and keep up-to-date about Amendments, Rulings, Withdrawals, and new projects by visiting:
www.standards.org.au

ISBN 978 1 76072 921 9

Oils for reducing the viscosity of bituminous binders for pavements

Originated as AS 3568—1989.
Previous edition 1999.
Third edition AS 3568:2020.

Preface

This Standard was prepared by the Australian Members of Joint Standards Australia/Standards New Zealand Committee CH-025, Bitumen and Related Products (for Roadmaking) to supersede AS 3568—1999, *Oils for reducing the viscosity of residual bitumen for pavements*.

The objective of this Standard is to specify the properties of hydrocarbon oils used to reduce the viscosity of bitumen and polymer modified binders (PMBs) when they are used in pavement construction.

This revision of the Standard was undertaken based on research conducted in Austroads Project No. APT2063, *Key properties of cutters for optimal sprayed seal performance*, the outcomes of which are published in Austroads Report No. AP-T344-19.

The major changes in this edition are as follows:

(a) Requirements for the properties of cutter oil and high flash point cutter have been revised to include test properties relating to the performance of the oils in pavement construction. Requirements for aniline point, aromatic content, fluidity and water content have been removed and methods used to determine flash point and density at 15 °C have been updated so as to be consistent with the *Australian Code for the Transport of Dangerous Goods by Road and Rail* and also with laboratory practice.

(b) An option to use certified Jet A-1 aviation fuel as cutter oil has been added.

(c) Requirements for flux oil have been removed as they have been replaced by those of diesel which are covered by laws in Australia and New Zealand.

(d) References to heavy flux oil have been removed as this material is no longer used in pavement construction.

Contents

NOTES

Australian Standard®

Oils for reducing the viscosity of bituminous binders for pavements

1 Scope

This Standard sets out the requirements for hydrocarbon oils, derived from refined crude petroleum, to be used for reducing the viscosity of bituminous binders in sprayed sealing work and the preparation of bituminous cold mixes.

WARNING — THE USE OF THIS STANDARD MAY INVOLVE HAZARDOUS MATERIALS, OPERATIONS AND EQUIPMENT. THIS STANDARD DOES NOT PURPORT TO ADDRESS ALL OF THE SAFETY ISSUES ASSOCIATED WITH ITS USE. IT IS THE RESPONSIBILITY OF THE USER OF THIS STANDARD TO ESTABLISH APPROPRIATE SAFETY AND HEALTH PRACTICES, AND TO DETERMINE THE APPLICABILITY OF REGULATORY LIMITATIONS PRIOR TO USE.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements.

NOTE Documents referenced for informative purposes are listed in the Bibliography.

AS 2106.2, *Methods for the determination of the flash point of flammable liquids (closed cup), Part 2: Determination of flash point — Pensky-Martens closed cup method*

AS/NZS 2106.1, *Methods for the determination of the flash point of flammable liquids (closed cup), Part 1: Abel closed cup method*

ISO 13736, *Determination of flash point — Abel closed-cup method*

ASTM D86, *Standard test method for distillation of petroleum products and liquid fuels at atmospheric pressure*

ASTM D93, *Standard test methods for flash point by Pensky-Martens closed cup tester*

ASTM D445, *Standard test method for kinematic viscosity of transparent and opaque liquids (and calculation of dynamic viscosity)*

ASTM D1298, *Standard test method for density, relative density, or API gravity of crude petroleum and liquid petroleum products by hydrometer method*

ASTM D4052, *Standard test method for density, relative density, and API gravity of liquids by digital density meter*

DEF STAN 91-091, *Turbine fuel, kerosene type, Jet A-1; NATO Code: F-35: Joint Service Designation: AVTUR*

IP 170, *Determination of flash point — Abel closed-cup method*

JIG, *Aviation fuel quality requirements for jointly operated systems (AFQRJOS)*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1
bitumen
bituminous material obtained by processing the material obtained from the refining of naturally occurring crude petroleum