

# TRANSPORT FOR NSW (TfNSW)

## SPECIFICATION D&C 3259

### BITUMEN ADHESION AGENT (FOR BITUMEN)

#### NOTICE

This document is a Transport for NSW D&C Specification. It has been developed for use with Design & Construct roadworks and bridgeworks contracts let by Transport for NSW. It is not suitable for any other purpose and must not be used for any other purpose or in any other context.

Copyright in this document belongs to Transport for NSW.

#### REVISION REGISTER

<b>Ed/Rev Number</b>	<b>Clause Number</b>	<b>Description of Revision</b>	<b>Authorised By</b>	<b>Date</b>
Ed 1/Rev 0		First issue	GM, IC W Stalder	01.07.11
Ed 1/Rev 1	Global	References to “Roads and Maritime Services” or “RMS” changed to “Transport for NSW” or “TfNSW” respectively.  References to “RMS Representative” changed to “Principal”.	DCS	22.06.20





Transport  
for NSW

SPECIFICATION D&C 3259

---

# BITUMEN ADHESION AGENT (FOR BITUMEN)

Copyright – Transport for NSW  
IC-DC-3259

VERSION FOR: DATE:
-----------------------



## CONTENTS

CLAUSE	PAGE
FOREWORD .....	ii
TfNSW Copyright and Use of this Document.....	ii
Base Specification .....	ii
1    SCOPE .....	1
2    STRUCTURE OF THE SPECIFICATION.....	1
2.1    (Not Used) .....	1
2.2    Schedule of Identified Records .....	1
2.3    (Not Used) .....	1
2.4    Referenced Documents and Definitions.....	1
3    (NOT USED).....	1
4    SUPPLIER’S QUALITY MANAGEMENT SYSTEM.....	1
5    MATERIAL REQUIREMENTS.....	2
5.1    Safety.....	2
5.2    Homogeneity.....	2
5.3    Concentration.....	2
5.4    Resistance to Stripping.....	2
5.5    Concentration of Active Component .....	2
6    PRODUCT CERTIFICATION.....	3
7    IDENTIFICATION OF CONTAINERS .....	3
8    INFORMATION TO BE PROVIDED BY SUPPLIER.....	3
ANNEXURES 3259/A TO 3259/B – (NOT USED) .....	4
ANNEXURE 3259/C – SCHEDULE OF IDENTIFIED RECORDS .....	4
ANNEXURES 3259/D TO 3259/L– (NOT USED) .....	5
ANNEXURE 3259/M – REFERENCED DOCUMENTS.....	5
LAST PAGE OF THIS DOCUMENT IS .....	5

## **FOREWORD**

### **TfNSW COPYRIGHT AND USE OF THIS DOCUMENT**

Copyright in this document belongs to Transport for NSW.

#### **When this document forms part of a deed**

This document should be read with all the documents forming the Project Deed.

#### **When this document does not form part of a deed**

This copy is not a controlled document. Observe the Notice that appears on the first page of the copy controlled by TfNSW. A full copy of the latest version of the document is available on the TfNSW Internet website: <http://www.rms.nsw.gov.au/business-industry/partners-suppliers/specifications/index.html>

### **BASE SPECIFICATION**

This document is based on Specification TfNSW 3259 Edition 9 Revision 1.

# **TfNSW SPECIFICATION D&C 3259**

## **BITUMEN ADHESION AGENT (FOR BITUMEN)**

### **1 SCOPE**

This Specification sets out the requirements for adhesion agents compatible with bitumen Class 170, for use both in sprayed sealing and asphalt.

### **2 STRUCTURE OF THE SPECIFICATION**

This Specification includes a series of annexures that detail additional requirements.

#### **2.1 (NOT USED)**

#### **2.2 SCHEDULE OF IDENTIFIED RECORDS**

The records listed in Annexure 3259/C are **Identified Records** for the purposes of Specification TfNSW D&C Q6 Annexure Q/E.

#### **2.3 (NOT USED)**

#### **2.4 REFERENCED DOCUMENTS AND DEFINITIONS**

Standards, specifications and test methods are referred to in abbreviated form (e.g. AS 2350). For convenience, the full titles are given in Annexure 3259/M.

The term “the Supplier” means the supplier of the product covered by the scope of this Specification.

### **3 (NOT USED)**

### **4 SUPPLIER’S QUALITY MANAGEMENT SYSTEM**

The Supplier must establish and maintain a Quality Management System complying with AS/NZS ISO 9001 as a means of ensuring that the product conforms to this Specification.

Provide evidence verifying compliance with this Clause.

## **5 MATERIAL REQUIREMENTS**

### **5.1 SAFETY**

The material must not contain any components which, when handled in accordance with approved work practices (such as those contained in “TfNSW Sprayed Sealing Guide” and “Austroads Guide to Pavement Technology Part 4B”) will cause the worker to be exposed to harmful substances above the legal limit concentration.

### **5.2 HOMOGENEITY**

The material must be homogeneous. Liquid adhesion agents, after agitation and when ready for use, must remain free from skinning, precipitation or any other deterioration for 72 hours (Test Method TfNSW T590).

### **5.3 CONCENTRATION**

The percentages of adhesion agent quoted in Clause 5.4 and “TfNSW Sprayed Sealing Guide” are based on a 40/60 mixture of adhesion agent concentrate/diesel fuel oil.

Where concentrate is to be used alone, the actual percentage of product used must be adjusted accordingly.

### **5.4 RESISTANCE TO STRIPPING**

The adhesion agent must be blended with Class 170 bitumen conforming to AS 2008 at a concentration of 0.5% v/v.

When tested in accordance with Test Method TfNSW T230 with Class 170 bitumen and each of the four aggregates: Microgranite (ex Mugga 1 Quarry, Canberra), Basalt (ex Peats Ridge), Quartzite (ex Marrangaroo, Lithgow) and Nepean River Gravel (ex Emu Plains) under the following two surface conditions:

- (i) dusty;
- (ii) saturated surface wet,

the percentage stripped must not exceed 10% with any combination of aggregate and surface condition listed above.

### **5.5 CONCENTRATION OF ACTIVE COMPONENT**

Provide details of a reproducible laboratory test which will allow the concentration of the active component of the material to be determined. Specify an average value for the concentration of the active component and an acceptable minimum value above which the material is considered to be effective.



## **6 PRODUCT CERTIFICATION**

Provide a certificate of compliance verifying that the adhesion agent complies with Clauses 5.2 and 5.4 of this Specification, together with test results reported on NATA endorsed test documents.

The certification must relate only to the formulation of the product on which the tests were carried out. New certification will be required every five (5) years or whenever a change in product formulation is made.

## **7 IDENTIFICATION OF CONTAINERS**

Mark each container clearly and durably to show the following information:

- (a) name of Supplier;
- (b) trade name of the product (if applicable);
- (c) product reference number or identification number;
- (d) batch number or date of manufacture; and
- (e) "Use By" date.

Provide a copy of the certificate of compliance and Safety Data Sheet with each delivery.

## **8 INFORMATION TO BE PROVIDED BY SUPPLIER**

Provide a Materials Data Sheet which include the following information:

- (a) whether the adhesion agent is in the form of a solid, liquid or paste.
- (b) chemical and physical properties.
- (c) information as to the effectiveness of the adhesion agent when it is subjected to prolonged heating. This must take the form of a table or graph of values depicting the % loss of effective adhesion agent (at temperatures of 160°C and 180°C) as a function of time, expressed in hours. The maximum period of prolonged heating, in bitumen at temperatures of 160°C and 180°C, to which the adhesion agent may be subject without losing its effectiveness must also be stated.
- (d) recommended method of handling and mixing.
- (e) recommended mixing time.

## **ANNEXURES 3259/A TO 3259/B – (NOT USED)**

### **ANNEXURE 3259/C – SCHEDULE OF IDENTIFIED RECORDS**

Refer to Clause 2.2.

The records listed below are Identified Records for the purposes of TfNSW D&C Q6 Annexure Q/E.

<b>Clause</b>	<b>Description of Identified Record</b>
5.5	Average and minimum value of concentration of active component and details of related tests
6	Certificate of compliance verifying that the adhesion agent complies with Clauses 5.2 and 5.4 together with test results reported on NATA endorsed test documents
7	Certificate of compliance and Safety Data Sheet to be supplied with each delivery
8	Materials Data Sheet

## **ANNEXURES 3259/D TO 3259/L– (NOT USED)**

### **ANNEXURE 3259/M – REFERENCED DOCUMENTS**

Refer to Clause 2.4.

#### **TfNSW Specification**

TfNSW D&C Q6      Quality Management System (Type 6)

#### **TfNSW Test Methods**

TfNSW T230          Resistance to Stripping of Cover Aggregates and Binders.

TfNSW T590          Homogeneity of Liquid Precoats and Adhesion Agents.

#### **TfNSW Guides**

TP-GDL-001          TfNSW Sprayed Sealing Guide

#### **Australian Standards**

AS 2008              Residual Bitumen for Pavements.

AS/NZS ISO 9001    Quality management systems – Requirements

#### **Austrroads Documents**

AGPT04B/07          Guide to Pavement Technology – Part 4B: Asphalt