

# TRANSPORT FOR NSW (TfNSW)

## SPECIFICATION D&C 3254

### BITUMEN EMULSION

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#### REVISION REGISTER

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# BITUMEN EMULSION

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VERSION FOR: DATE:
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## 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 .....	1
3 DEFINITIONS.....	1
4 SUPPLIER'S QUALITY MANAGEMENT SYSTEM.....	1
5 DESIGNATION.....	2
6 MATERIAL REQUIREMENTS.....	2
7 PRODUCT CERTIFICATION.....	2
8 DELIVERY .....	3
8.1 Containers.....	3
8.2 Delivery Procedures.....	3
8.3 Details of Consignment .....	3
8.4 Information to be Provided by Supplier .....	3
9 SAMPLING AND TESTING .....	4
ANNEXURES 3254/A TO 3254/B – (NOT USED).....	5
ANNEXURE 3254/C – SCHEDULE OF IDENTIFIED RECORDS.....	5
ANNEXURES 3254/D TO 3254/L – (NOT USED) .....	6
ANNEXURE 3254/M – REFERENCED DOCUMENTS.....	6
LAST PAGE OF THIS DOCUMENT IS .....	6

## **FOREWORD**

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### **BASE SPECIFICATION**

This document is based on Specification TfNSW 3254 Edition 9 Revision 1.

## **TfNSW SPECIFICATION D&C 3254**

### **BITUMEN EMULSION**

#### **1 SCOPE**

This Specification sets out the requirements for the supply and delivery of anionic and cationic bitumen emulsions with or without polymers.

#### **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 3254/C are **Identified Records** for the purposes of Specification TfNSW D&C Q6 Annexure Q/E.

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

##### **2.4 REFERENCED DOCUMENTS**

Standards, specifications and test methods are referred to in abbreviated form (e.g. AS 2350). For convenience, the full titles are given in Annexure 3254/M.

#### **3 DEFINITIONS**

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

#### **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 DESIGNATION**

Designation of the bitumen emulsion must include the following:

- (i) type (anionic or cationic);
- (ii) grade (based on setting time) according to AS 1160;
- (iii) class of bitumen;
- (iv) minimum percentage of residual bitumen content in the emulsion.

For example, **CRS/170-67** represents:

- CRS** Cationic Rapid Setting grade emulsion;
- 170** Class 170 residual bitumen;
- 67** minimum percentage of binder.

**Note:** If a polymer is present in the bituminous emulsion, the suffix 'P' must be added to the designation to generally signify the presence of a polymer modifier.

## **6 MATERIAL REQUIREMENTS**

Verify that the production batch complies with the properties for its type and grade as set down in AS 1160, except that the residue from evaporation of Cationic Aggregate Mixing (CAM) emulsion must be determined in accordance with Test Method TfNSW T560. Report test results on NATA endorsed test documents.

For bitumen emulsions listed in Table 1 of AS 1160, the retention of properties of the bitumen emulsion during transport and storage in the original container in an appropriate manner, must be such that when the bitumen emulsion is tested at any time up to 90 days after manufacture, it must comply with all requirements of this Specification. Unless agreed otherwise, despatch must be within 10 days of manufacture.

The material must also comply with these requirements at the point of delivery.

## **7 PRODUCT CERTIFICATION**

Provide a certificate of compliance verifying that the bitumen emulsion complies with Clause 6 of this Specification for the relevant grade and type of bitumen emulsion as specified in AS 1160, together with results for all tests reported on NATA endorsed test documents.

The certification must relate only to the formulation on which the tests were made.

New certification will be required every 5 years or whenever a change in product formulation is made.



## **8 DELIVERY**

### **8.1 CONTAINERS**

Deliveries must be made in either 205 litre steel drums of the returnable, bung type or bulk road or rail tankers as ordered.

All containers must be in good condition.

### **8.2 DELIVERY PROCEDURES**

As part of the Quality Management System, implement delivery procedures which ensure that all containers are clean and free from any deleterious material prior to filling with emulsion. The delivery procedures must include periodic sampling from containers to verify compliance with Clause 6.

If adequate delivery procedures are not maintained, take samples, for testing, at the point of delivery in accordance with Clause 9.

Fill all drums to hold at least 200 litres. Partly filled drums will not be accepted.

### **8.3 DETAILS OF CONSIGNMENT**

Mark each container clearly and durably with the following information:

- (i) Name of manufacturer and/or supplier;
- (ii) Product name or trade name;
- (iii) Product reference number or identification number (if any);
- (iv) Nominal quantity;
- (v) Batch number;
- (vi) Date of manufacture;
- (vii) Designation (as per Clause 5);
- (viii) "Use by" date.

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

Provide the following details with each delivery:

- (i) documentary evidence that the delivery procedures in Clause 8.2 have been complied with for that delivery;
- (ii) documentary evidence that the production batch complied with the material requirements in Clause 6;
- (iii) Safety Data Sheet;
- (iv) special handling requirements, if any.

## **9 SAMPLING AND TESTING**

Carry out all sampling in accordance with the relevant procedure of AS 1160.

Where sampling is carried out at the point of delivery (reference Clause 8.2), test results demonstrating compliance with AS 1160 for:

- (i) Setting Time;
- (ii) Residue from Evaporation;
- (iii) Sieve Residue;
- (iv) Consistency at 25°C (Engler Viscometer);
- (v) Stone Coating Ability (for CAM grade);

must be submitted to the Principal within fourteen days of delivery.

Report test results on NATA endorsed test documents.

**ANNEXURES 3254/A TO 3254/B – (NOT USED)**

**ANNEXURE 3254/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>
6	Verification that the production batch complies with all relevant requirements together with test results on NATA endorsed test documents
7	Certificate of compliance verifying that the bitumen emulsion complies with the Specification together with results for all tests reported on NATA endorsed test documents
8.4	Safety Data Sheet
9	Test results demonstrating compliance with AS 1160 on NATA endorsed test documents

## **ANNEXURES 3254/D TO 3254/L – (NOT USED)**

## **ANNEXURE 3254/M – REFERENCED DOCUMENTS**

Refer to Clause 2.4.

### **TfNSW Specification**

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

### **TfNSW Test Methods**

TfNSW T510      Viscosity of CAM and HBC Bitumen Emulsion – Redwood No.2.

TfNSW T560      Apparent Bitumen Content of Bitumen Emulsion and Recovery of Bitumen for Testing.

### **Australian Standards**

AS 1160      Bitumen emulsions for the construction and maintenance of pavements.

AS/NZS ISO 9001      Quality management systems – Requirements