

TRANSPORT FOR NSW (TfNSW)

SPECIFICATION D&C 3354

ADHESIVES FOR RAISED PAVEMENT MARKER INSTALLATION

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Transport
for NSW

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FOREWORD

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BASE SPECIFICATION

This document is based on Specification TfNSW 3354 Edition 5 Revision 1.

TfNSW SPECIFICATION D&C 3354

ADHESIVES FOR RAISED PAVEMENT MARKER INSTALLATION

1 SCOPE

This Specification sets out the requirements for adhesives to be used for installing raised pavement markers on both bituminous and concrete pavements.

2 STRUCTURE OF THE SPECIFICATION

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

2.1 (NOT USED)

2.2 (NOT USED)

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 3354/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 GENERAL REQUIREMENTS

The adhesive used for raised pavement marker installation must be a thermoplastic bituminous adhesive with a homogeneously mixed filler.

It must be capable of being melted and applied at elevated temperatures in the nominal range of 180°C to 220°C. The properties of the adhesive must not deteriorate when it is heated to the application temperature in either an air or oil jacketed kettle.

6 ADHESIVE MATERIAL REQUIREMENTS

Thermoplastic bituminous adhesive must conform to the requirements as set out in Table 3354.5 below:

Table 3354.1 - Thermoplastic Bituminous Adhesive Requirements

Property	Requirement		Test Method
Softening Point, °C	108	122	TfNSW T505
Flash Point, °C	285	-	AS 2341.14
Penetration, 100g, 5 sec, 25°C	10	20	ASTM D5
Flow, mm	-	2	TfNSW T736
Viscosity 205°C, Brookfield Thermosel	3	6	ASTM D4402
Heat Stability flow, mm, 60°C, 5hrs	-	2	ASTM D5329

7 PRODUCT CERTIFICATION

The Supplier must provide a certificate of compliance verifying that the product complies with the relevant clauses of this Specification, together with the results of the relevant tests. The tests must be carried out by a laboratory accredited by NATA to carry out such tests.

The certification must relate only to the formulation on which the tests were carried out. New certification will be required every 3 years or whenever a change in product formulation is made.

8 PACKAGING AND LABELLING

The following information must appear on each container:

- (a) Name of the supplier;
- (b) Product name and/or number;
- (c) Recommended application temperature and maximum heating temperature for bituminous adhesives;
- (d) Date of manufacture or batch number;
- (e) Shelf life.

The following information must be supplied with each delivery:

- (i) Technical Data Sheets giving relevant properties, and instructions for storage, mixing, application and clean-up;
- (ii) Safety Data Sheets;
- (iii) Product certification (Refer Clause 7).

ANNEXURES 3354/A TO 3354/L – (NOT USED)

ANNEXURE 3354/M – REFERENCED DOCUMENTS

Refer to Clause 2.4.

TfNSW Test Methods

TfNSW T505	Softening point of bituminous and resinous material
TfNSW T736	Flow test for rubber bitumen mixes

Australian Standards

AS 1906.3	Retroreflective materials and devices for road traffic control purposes – Raised pavement markers (retroreflective and non-retroreflective)
AS 2341	Methods of testing bitumen and related roadmaking products
AS/NZS ISO 9001	Quality management systems – Requirements

ASTM Standards

ASTM D5	Standard test methods for penetration of bituminous materials
ASTM D5329	Standard methods of testing joint sealants, hot-poured, for concrete and asphalt pavements
ASTM D4402	Standard test methods for viscosity determinations of unfilled asphalts using the brookfield thermosel apparatus