

TRANSPORT FOR NSW (TfNSW)

QA SPECIFICATION 3356

WATERBORNE ROAD MARKING PAINT

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REVISION REGISTER

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Ed 3/Rev 0	“Notice” Spec Ref No Foreword Global 2.4 5 6 7 Annex M	Standard “Notice” inserted Revision No added. Foreword, incorporating copyright clause, added. Text revised to direct imperative style. “shall” replaced by “must”. Reformatting and minor editing to clarify intent. Clauses rearranged and renumbered. Definitions of “you” and “your” added. Conformance to APAS requirements added. Additional composition requirements added. Requirements for product certification expanded. Maxicon containers added to accepted method of delivery. Additional container identification requirements included. References listing updated.	GM, IC	28.05.10
Ed 3/Rev 1	Global	References to “Roads and Maritime Services” or “RMS” changed to “Transport for NSW” or “TfNSW” respectively.	DCS	22.06.20



Transport
for NSW

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VERSION FOR: DATE:

CONTENTS

CLAUSE	PAGE
FOREWORD	ii
TfNSW Copyright and Use of this Document	ii
Revisions to Previous Version	ii
Project Specific Changes	ii
1 SCOPE.....	1
2 STRUCTURE OF THE SPECIFICATION.....	1
2.1 (Not Used).....	1
2.2 (Not Used).....	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 Additional Material Requirements	2
6 PRODUCT CERTIFICATION	2
7 DELIVERY.....	3
7.1 Containers.....	3
7.2 Delivery Procedures	3
7.3 Identification of Containers	3
7.4 Documentation with Delivery	4
ANNEXURES 3356/A TO 3356/L – (NOT USED).....	5
ANNEXURE 3356/M – REFERENCED DOCUMENTS	5
LAST PAGE OF THIS DOCUMENT IS	5

FOREWORD

TfNSW COPYRIGHT AND USE OF THIS DOCUMENT

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When this document forms part of a contract

This document should be read with all the documents forming the Contract.

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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>

REVISIONS TO PREVIOUS VERSION

This document has been revised from Specification TfNSW 3356 Edition 3 Revision 0.

All revisions to the previous version (other than minor editorial and project specific changes) are indicated by a vertical line in the margin as shown here, except when it is a new edition and the text has been extensively rewritten.

PROJECT SPECIFIC CHANGES

Any project specific changes are indicated in the following manner:

- (a) Text which is additional to the base document and which is included in the Specification is shown in bold italics e.g. ***Additional Text***.
- (b) Text which has been deleted from the base document and which is not included in the Specification is shown struck out e.g. ~~Deleted Text~~.

TfNSW QA SPECIFICATION 3356

WATERBORNE ROAD MARKING PAINT

1 SCOPE

This Specification sets out the requirements for waterborne paints suitable for application by spraying on road pavement surfaces of bituminous concrete, bituminous surface dressings and Portland cement concrete.

The waterborne paint must be capable of retaining a surface layer of reflectorising glass beads to improve the visibility of the pavement markings at night.

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

Unless specified otherwise, the applicable issue of a referenced document, other than a TfNSW Specification, must be the issue current at the date one week before the closing date for tenders, or where no issue is current at that date, the most recent issue.

Standards, specifications and test methods are referred to in abbreviated form (e.g. AS 2350). For convenience, the full titles are given in Annexure 3356/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.

The Quality Management System must include product certification in accordance with Clause 5 below, and sampling to verify product conformity during production.

5 MATERIAL REQUIREMENTS

The waterborne road marking paint must comply with all the requirements specified in AS/NZS 4049.3 and Australian Paint Approval Scheme (APAS) Specification 0041. The waterborne paint must be approved by APAS to APAS specification 0041 subclass 5 “Pavement marking paint, waterborne”.

The waterborne paint must be manufactured in a paint manufacturing factory approved/endorsed by APAS.

5.1 ADDITIONAL MATERIAL REQUIREMENTS

5.1.1 Special Colours

TfNSW occasionally requires low volume of special colours other than white and yellow. If requested, paint colours of black, red, blue, and green paint must conform to the following colour matches from AS 2700S:

Black: to be no lighter than B64 Charcoal

Red: equivalent to R62 Venetian Red

Blue: equivalent to B12 Royal Blue

Green: equivalent to G13 Emerald

5.1.2 Composition

The non-volatile portion of waterborne paint must be composed of a 100% cross-linking acrylic polymer as determined by infrared spectral analysis, evidenced by infrared peaks at wavelengths 1568, 1624 and 1672 cm^{-1} with intensities equal to those produced by an acrylic resin known to be 100% cross-linking.

5.1.3 Titanium dioxide content

When tested in accordance with ASTM D 1394 (using the aluminium reduction method), white waterborne paint must contain a minimum of 120g/L rutile titanium dioxide.

6 PRODUCT CERTIFICATION

Provide a certificate of compliance verifying that the waterborne road marking paint complies with Clause 5 of this Specification, together with test results for all tests reported on NATA endorsed test documents or test results from a laboratory approved by TfNSW.

The test results and certificate of compliance must relate only to the formulation on which the tests were made; and must be no more than 3 years old.

If a product formulation change is made, advise TfNSW in writing and obtain their approval before supplying a formulation change. Provide new test results and certificate of compliance for the formulation change.

Provide evidence that the paint supplied is approved by APAS to subclass 0041/5 of APAS specification 0041. Supply verification of batch numbers to TfNSW. The batch numbering system employed must be unique to each batch and provide full traceability.

TfNSW will evaluate sample waterborne paint provided at the time of tendering, and generate a “fingerprint” of the paint formulation submitted. At random times during the paint supply, TfNSW will check delivered batches for formulation consistency with the sample batch.

7 DELIVERY

7.1 CONTAINERS

Deliveries must be made in 1000 litre maxicons, 500 litre maxicons, or 20 litre plastic lined steel drums complying with AS 2905 bung type.

All containers must be in good condition. All maxicons must be coloured white on the outside.

7.2 DELIVERY PROCEDURES

Implement delivery procedures which ensure that all containers are clean and free from any deleterious material prior to filling with paint as part of the Quality Management System.

The delivery procedures must include product auditing at the point of delivery to verify compliance with Clause 5.

If product auditing (internal or external) identifies a nonconforming product, take samples from each drummed batch for testing to verify compliance with Clause 5.

The number of maxicons sampled must not be less than the cube root of the number of maxicons making up the batch. Report the test results on NATA endorsed test documents.

7.3 IDENTIFICATION OF CONTAINERS

Mark each container clearly and durably with the following information:

- (a) Manufacturer's name;
- (b) Product name or trade name;
- (c) Product Reference Number or Identification Number;
- (d) Batch number or date of manufacture;
- (e) Net Weight of the container;
- (f) Gross Weight of the container.

7.4 DOCUMENTATION WITH DELIVERY

Provide the following details with each delivery:

- (a) documentary evidence that the delivery procedures in Clause 7.2 have been complied with for that delivery;
- (b) documentary evidence that the production batch complies with the requirements of this Specification.

ANNEXURES 3356/A TO 3356/L – (NOT USED)

ANNEXURE 3356/M – REFERENCED DOCUMENTS

Refer to Clause 2.4.

Australian Standards

AS/NZS 4049.3	Paints and related materials – Pavement marking materials – Waterborne paint – For use with surface applied glass beads
AS 2700S	Colour standards for general purposes
AS 2905	Steel drums
AS/NZS ISO 9001	Quality management systems – Requirements

ISO Standards

ISO 105	Textiles – Tests for colour fairness - Part A02 Grey scale for assessing change in colour
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Australian Paint Approval Scheme (APAS) Specifications

APAS 0041	Pavement Marking Materials
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American Society of Test Methods (ASTM) Specifications

ASTM D 1394	Standard Test Methods for chemical analysis of white titanium pigments
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