

# TRANSPORT FOR NSW (TfNSW)

## QA SPECIFICATION 3353

### GLASS BEADS (FOR APPLICATION TO ROAD MARKING MATERIALS)

#### NOTICE

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

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#### REVISION REGISTER

Ed/Rev Number	Clause Number	Description of Revision	Authorised By	Date
Ed 1		First Issued	GM, CMS	Dec 91
Ed 2	3	Quality System requirements added	GM, CMS (H. Larrea)	03.09.92
	5	Sampling requirements deleted		
Ed 3	1	Scope has been reworded.	GM, CMS	Jul 93
	3	Added Product Certification and Verification to the clause		
	6	Revised the entire clause to allow for various types of packaging.		
Ed 4	2, 3	References changed	GM, PSP	27.09.96
	4	Classes B, C and D added		
Ed 5		Converted to MS Word 6.0c. Document reformatted. References updated.	GM, RNIC (J Woodward)	17.04.97
Ed 6	2, 3	Reformatted with new annexure Minor editorial changes	GM, RNIC (P Wellings)	08.04.04
	3	ISO 9002 changed to ISO 9001		
	6	Applicable when supplied to RTA Increased the bin capacity of 1000kg to cater for 1500kg bins which has been trialled successfully		
	Annexure 3353/M	Details transferred from clause 2. ISO 9002 changed to ISO 9001		
Ed 7	Notice	New Notice for RTA Project Managers added	GM, IC	05.01.07
	Foreword	Foreword added		
	1	Scope reworded		

<b>Ed/Rev Number</b>	<b>Clause Number</b>	<b>Description of Revision</b>	<b>Authorised By</b>	<b>Date</b>
Ed 7 (cont'd)	4	Reworded and Table 3353.1 removed. Added requirement for compliance to APAS Spec 0042		
	5	Reworded		
	6	Altered to be suitable with RTA equipment		
Ed 7/Rev 1	“Notice” Spec Ref No Foreword Guide Notes Global 2.4	RTA PO Box and Fax numbers updated. Revision No added; previous version deemed Rev 0. Foreword expanded to include standard clauses. Heading title changed. Text revised to direct imperative style. Reformatting and minor editing to clarify intent. Clauses rearranged and renumbered. Definitions of “you” and “your” added.	GM, IC	13.07.09
Ed 7/Rev 2	Global	References to “Roads and Maritime Services” or “RMS” changed to “Transport for NSW” or “TfNSW” respectively.	DCS	22.06.20

## **GUIDE NOTES**

(Not Part of Contract Document)

### **Purchase of Glass Beads for Use by TfNSW**

If this Specification is to be used to purchase glass beads for use by TfNSW equipment, the purchasing information should list the relevant equipment for the attention of the Supplier. Refer to Clause 7.





# GLASS BEADS

(FOR APPLICATION TO ROAD MARKING MATERIALS)

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IC-QA-3353

VERSION FOR: DATE:
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## 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 3353 Edition 7 Revision 1.

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 3353**

### **GLASS BEADS (FOR APPLICATION TO ROAD MARKING MATERIALS)**

#### **1 SCOPE**

This Specification sets out the requirements for glass beads for incorporation into and on to road marking materials for the production of a reflective surface to improve the visibility of the marking 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 1234). For convenience, the full titles are given in Annexure 3353/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 6 below, and sampling to verify product conformity during production.

## 5 MATERIAL REQUIREMENTS

The glass beads must comply with all the requirements specified in AS/NZS 2009 and Australian Paint Approval Scheme (APAS) Specification 0042. In addition, the amount of heavy metals in the beads must not be greater than that specified in APAS Specification 0042 (refer to Section 3, Table 1, and Appendix A).

## 6 PRODUCT CERTIFICATION

Provide a certificate of compliance verifying that the glass beads comply with Clause 5 of this Specification, together with the relevant test results on NATA endorsed test documents. The certificate must relate only to the formulation on which the tests were made and must be attached to each commercial batch of product supplied. The batch numbering system employed must be unique to each batch and provide full traceability.

## 7 PACKAGING

When required to be stored for use by the Principal, package the beads as follows:

- (a) Multiwall bags of 15 kg capacity comprising:
  - (i) hermetically sealed high density polyethylene liner (38  $\mu\text{m}$ )
  - (ii) intermediate layers of natural sack kraft paper (2 x 73  $\text{g}/\text{m}^2$ )
  - (iii) outer layer of laminated kraft paper and high density polyethylene (173C) comprising 85  $\text{g}/\text{m}^2$  bleached sack kraft, coated on the outer surface with a non-slip coating 15  $\mu\text{m}$  high density polyethylene film 73  $\text{g}/\text{m}^2$  natural sack kraft 2 ply x 73  $\text{g}/\text{m}^2$  natural sack kraft 50  $\mu\text{m}$  high density polyethylene film.

(Note: Alternative materials may be used if it can be demonstrated that durability, strength, waterproofing, and handling properties of the bags produced are equal to or better than those of the multiwall bags described above.)

OR

- (b) Returnable bulk containers of minimum capacity 1000 kg tare weight (maximum 1500 kg tare weight) and suitable/compatible with TfNSW transfer systems and equipment.

## **ANNEXURES 3353/A TO 3353/L – (NOT USED)**

## **ANNEXURE 3353/M – REFERENCED DOCUMENTS**

Refer to Clause 2.4.

### **Australian Standards**

AS/NZS 2009      Glass beads for road marking materials  
AS/NZS ISO 9001      Quality management systems – Requirements

### **Australian Paint Approval Scheme (APAS) Specifications**

Spec 0042      Glass Beads for Pavement Marking Paint