

TRANSPORT FOR NSW (TfNSW)

QA SPECIFICATION 3256

CRUMB RUBBER

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REVISION REGISTER

Ed/Rev Number	Clause Number	Description of Revision	Authorised By	Date
Ed 1		First issued.	GM, CMS	05.08.91
Ed 2	4	Table 1. 2nd line change sieve size from 1.28 mm to 1.18mm	GM, CMS (H Larrea)	27.01.93
Ed 3		Converted to MS Word 6.0c Document reformatted References updated	GM, RNIC (J Woodward)	17.04.97
Ed 4	1 2 & 3 Table 3256.1 Annexure 3254/1 Appendix A	Update nomenclature ISO 9002 replaced by ISO 9001 SI unit New annexure - Schedule of Identified Records New	GM, RNIC	31.08.01
Ed 5/Rev 0	“Notice” Spec Ref No Foreword Global Annex M	RTA PO Box and Fax numbers updated. Revision No added. Foreword, incorporating copyright clause, added. “shall” replaced by “must”. Document reformatted. Clauses rearranged and renumbered. ISO 9001 reference updated.	GM, IC	30.07.09
Ed 6/Rev 0		New edition	GM, IC	23.05.11
Ed 6/Rev 1	Global 1	Specification title changed. Term “comminuted scrap rubber” changed to “crumb rubber”. Note on origins of crumb rubber added. Usage of particular crumb rubber grades removed.	DCS	17.08.18

Ed/Rev Number	Clause Number	Description of Revision	Authorised By	Date
Ed 6/Rev 1 (cont'd)	3	“Order” and “exemption” relating to EPA resource recovery exemption and order for tyres defined.		
	5	New clause on compliance with EPA resource recovery exemption and order, incorporating last paragraph of previous clause 4. Subsequent clauses renumbered accordingly.		
	6	Previous clause 6 titled “Product Certification” deleted, and replaced by previous clause 5 on material properties. Table 1 - material properties and associated test methods amended to align with Austroads AG:PT/T190-14. “Legend” added to bottom of table.		
	7.1	Previous clause 7.1 (“Not Used”) deleted; subsequent clauses renumbered accordingly.		
	7.3	Item (a) – certification requirements added.		
	Annex C	Schedule updated.		
	Annex M	Referenced documents updated.		
Ed 6/Rev 2	Global	References to “Roads and Maritime Services” or “RMS” changed to “Transport for NSW” or “TfNSW” respectively.	DCS	22.06.20



CRUMB RUBBER

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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 Schedule of Identified Records.....	1
2.3 (Not Used)	1
2.4 Referenced Documents.....	1
3 DEFINITIONS.....	1
4 QUALITY MANAGEMENT SYSTEM	2
5 RESOURCE RECOVERY EXEMPTION AND ORDER.....	2
6 MATERIAL PROPERTIES.....	2
7 DELIVERY.....	3
7.1 Delivery Procedures	3
7.2 Details on Packaging	3
7.3 Information to be Provided to the Principal	3
ANNEXURES 3256/A TO 3256/B – (NOT USED).....	4
ANNEXURE 3256/C – SCHEDULE OF IDENTIFIED RECORDS	4
ANNEXURES 3256/D TO 3256/L – (NOT USED).....	4
ANNEXURE 3256/M – REFERENCED DOCUMENTS	4
LAST PAGE OF THIS DOCUMENT IS	4

FOREWORD

TfNSW COPYRIGHT AND USE OF THIS DOCUMENT

Copyright in this document belongs to Transport for NSW.

When this document forms part of a contract

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

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REVISIONS TO PREVIOUS VERSION

This document has been revised from Specification TfNSW 3256 Edition 6 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 3256

CRUMB RUBBER

1 SCOPE

This Specification sets out the requirements for crumb rubber.

Crumb rubber is derived from retreader's buffings and/or mechanically comminuted vulcanised rubber from either truck or car tyres which may contain synthetic or natural rubber.

Two grades of crumb rubber are specified:

- (a) Grade A or size 16 (nominal size 1 mm);
- (b) Grade B or size 30 (nominal size 0.5 mm).

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 3256/C are **Identified Records** for the purposes of Specification TfNSW Q Annexure Q/E.

2.3 (NOT USED)

2.4 REFERENCED DOCUMENTS

Unless otherwise specified, 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 3256/M.

3 DEFINITIONS

The terms "you" and "your" mean "the Supplier" and "the Supplier's" respectively.

"The recovered tyres exemption 2014" ("exemption") refers to the exemption issued by the EPA under Part 9, Clauses 91 and 92, of the *Protection of the Environment Operations (Waste) Regulation 2014 (NSW)* to consumers of recovered tyres.

“The recovered tyres order 2014” (“order”) refers to the order issued by the EPA under Part 9, Clause 93 of the *Protection of the Environment Operations (Waste) Regulation 2014 (NSW)* that must be met by suppliers of crumb rubber to which “the recovered tyres exemption 2014” applies.

4 QUALITY MANAGEMENT SYSTEM

Implement a Quality Management System conforming to AS/NZS ISO 9001 as a means of ensuring that the materials supplied conform to the requirements of this Specification.

The Principal may audit the system for compliance.

5 RESOURCE RECOVERY EXEMPTION AND ORDER

Comply, as applicable, with the conditions of exemption of “the recovered tyres exemption 2014” and the processor requirements of “the recovered tyres order 2014”.

Maintain records, including relevant test results, to demonstrate compliance with the “exemption” and “order”.

Provide evidence of this compliance to the Principal upon request.

6 MATERIAL PROPERTIES

The crumb rubber must comply with the properties specified in Table 3256.1 for its grade.

Table 3256.1 – Properties of Crumb Rubber

Test Description	Unit	Test Method	Grade	
			Grade A or Size 16	Grade B or Size 30
Grading	%	AG:PT/T143		
Passing 2.36 mm sieve			100	100
Passing 1.18 mm sieve			80 – 100	100
Passing 0.6 mm sieve			0 – 10	60 – 100
Passing 0.3 mm sieve			0	0 – 20
Particle length	mm	AG:PT/T143	3 max	3 max
Bulk density	kg/m ³	AG:PT/T144	Report	Report
Moisture content	%	AG:PT/T143	1.0 max	1.0 max
Iron content	%	AG:PT/T143	0.1 max	0.1 max

Legend: max = maximum Report = no conformity criteria exist, but test results must be reported

7 DELIVERY

7.1 DELIVERY PROCEDURES

As part of the Quality Management System, implement delivery procedures to ensure that the moisture content at the point of delivery does not exceed 1 percent.

7.2 DETAILS ON PACKAGING

Clearly and durably mark or tag the packaging with the following information:

- (a) Supplier's name.
- (b) Batch number or date(s) of manufacture.
- (c) Product identification and grade or mesh size.

7.3 INFORMATION TO BE PROVIDED TO THE PRINCIPAL

Provide to the Principal with each delivery the following:

- (a) Certificate of conformity verifying that the crumb rubber supplied complies with the properties specified in Table 3256.1 for its particular classification, together with test results reported on a NATA endorsed test report.

The test results must not be older than 6 month at the time of submission to the Principal.

- (b) Documentary evidence that the delivery procedures in Clause 7.2 have been complied with for that delivery.

ANNEXURES 3256/A TO 3256/B – (NOT USED)**ANNEXURE 3256/C – SCHEDULE OF IDENTIFIED RECORDS**

Refer to Clause 2.2.

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

Clause	Description of Identified Record
7.3	Certificate of conformity of crumb rubber, including test results

ANNEXURES 3256/D TO 3256/L – (NOT USED)**ANNEXURE 3256/M – REFERENCED DOCUMENTS**

Refer to Clause 2.4.

TfNSW Specification

TfNSW Q Quality Management System

Austrroads Test Methods

AG:PT/T143 Particle size and properties of crumb rubber

AG:PT/T144 Morphology of crumb rubber - Bulk density test

Australian Standards

AS 2008 Residual bitumen for pavements

AS/NZS ISO 9001 Quality management systems - Requirements