

TRANSPORT FOR NSW (TfNSW)

SPECIFICATION D&C 3580

AGGREGATE FILTER MATERIALS FOR SUBSURFACE DRAINAGE

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REVISION REGISTER

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Transport
for NSW

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FOREWORD

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When this document forms part of a deed

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BASE SPECIFICATION

This document is based on Specification TfNSW 3580 Edition 1 Revision 1.

TfNSW SPECIFICATION D&C 3580

AGGREGATE FILTER MATERIALS FOR SUBSURFACE DRAINAGE

1 SCOPE

This Specification sets out the requirements for the supply of aggregate filter materials associated with the provision of subsurface drainage system.

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 R3580/C are **Identified Records** for the purposes of Specification TfNSW D&C Q6 Annexure Q/E.

2.3 FREQUENCY OF TESTING

The minimum frequency of testing is shown in Annexure 3580/L.

2.4 REFERENCED DOCUMENTS AND DEFINITIONS

Standards, specifications and test methods are referred to in abbreviated form (e.g. AS 3600). For convenience, the full titles are given in Annexure 3580/M.

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

3 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.

4 REQUIREMENTS

4.1 PRETREATMENT

Pretreatment of the aggregate for testing is mandatory. The minimum level required is Pretreatment by Artificial Weathering in accordance with Test Method TfNSW T103, followed by three (3) cycles of Repeated Compaction in accordance with Test Method TfNSW T102. Further cycles of Repeated Compaction may be required.

4.2 AGGREGATE FILTER MATERIAL

Aggregate filter material must comply with the requirements of Table 3580.1. Determine the particle size distribution by Test Method TfNSW T201.

When tested in accordance with Test Method TfNSW T215, pretreatment of the aggregate is not required. The Wet Strength of the aggregate must not be less than 100 kN and the Wet/Dry Strength Variation must not exceed 35%. The fraction to be tested must be the proportion not passing the sieve specified in Table 3580.1.

When tested in accordance with Test Method TfNSW T203, the percentage of material passing the 75µm sieve must not exceed 2% by mass.

Table 3580.1 - Aggregate Filter Particle Size Requirements

Grade	Nominal Aggregate Size⁽¹⁾ (mm)	Maximum Coefficient of Uniformity (D_{60}/D_{10})⁽²⁾	Particle Size for Wet Strength Testing not passing Sieve (mm)
F20	20	1.3	13.2
F14	14	1.6	9.5
F10	10	1.9	6.7
F7	7	2.2	4.75
F5	5	2.5	2.36

Notes:

- (1) The nominal aggregate size is the designation of an aggregate which gives an indication of the largest aggregate size present. It is expressed as the next whole number above the largest sieve size on which aggregate may be retained.
- (2) D_{60} is the particle size interpolated from a log-linear plot of the TfNSW T201 sieve analysis, where exactly 60% of the sample is finer than the interpolated size. Similarly, D_{10} represents the particle size which 10% of the sample passes.

5 PRODUCT CERTIFICATION

Provide a certificate of compliance verifying that the filter aggregate complies with all the requirements of this Specification together with test results reported on NATA endorsed test documents. The certificate is for tests not more than six (6) months old.

ANNEXURES 3580/A TO 3580/B – (NOT USED)**ANNEXURE 3580/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.

Clause	Description of Identified Record
5	Certificate of compliance

ANNEXURES 3580/D TO 3580/K – (NOT USED)**ANNEXURE 3580/L – MINIMUM FREQUENCY OF TESTING**

Clause	Characteristics Tested	Test Method	Minimum Frequency of Testing
4.2	Co-efficient of Uniformity of Aggregate Filter Material	TfNSW T201	One per 100 m ³ prior to placement
4.2	Percentage of material retained on 75 µm sieve	TfNSW T203	One per 100 m ³ prior to placement
4.2	Wet/Dry Variation of Aggregate Filter Material	TfNSW T215	One per 100 m ³ prior to placement

ANNEXURE 3580/M – REFERENCED DOCUMENTS

TfNSW Specifications

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

TfNSW Test Methods

TfNSW T102 Pretreatment of Road Construction Materials by Compaction

TfNSW T103 Pretreatment of Road Construction Materials by Artificial Weathering

TfNSW T201 Particle Distribution of Aggregates (by Washing)

TfNSW T203 Particle Distribution of Aggregates Finer than 75 µm (by Washing)

TfNSW T215 Wet/Dry Strength Variation

Australian Standards

AS/NZS ISO 9001 Quality management systems – Requirements