

**TECHNICAL STANDARD**

**FINE AND COARSE AGGREGATES FOR  
CONCRETE IN MILD EXPOSURE CONDITIONS  
(Excluding Lightweight Aggregates)**



Issued by:                      Manager Engineering

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## APPROVAL TO DEVIATE FROM THIS STANDARD

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Approval may be granted by the Asset Owner to deviate from the requirements as stipulated in this Standard if the functional requirements (e.g. Asset Life) for the asset differs from those stated in the Standard, but is assessed as still being acceptable by the Asset Owner's nominated representative.

Any approval to deviate from the stated requirements of this Standard will not be seen as creating a precedent for future like project. Any request to deviate from this Standard must be carried out on a project by project basis where each alternate proposal will be individually assessed on its own merit.

## NO CHANGES REQUIRED IN THE JANUARY 2012 EDITION

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The following lists the major changes to the April 1996 edition and published in the October 2004 edition of TS 3a:

1. Reformatted from DS to TS (Departmental Standard to Technical Standard), and updated referenced Australian Standards.
2. Conversion to a technical standard by removal of contractual conditions (to be included in the contract that references this standard).

# CONTENTS

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APPROVAL TO DEVIATE FROM THIS STANDARD ..... 2

NO CHANGES REQUIRED IN THE JANUARY 2012 EDITION..... 2

CONTENTS ..... 3

TABLES & FIGURES..... 3

REFERENCED DOCUMENTS ..... 3

SECTION 1: SCOPE..... 4

SECTION 2: SA WATER’S REPRESENTATIVE ..... 4

SECTION 3: SIEVES ..... 4

SECTION 4: FINE AGGREGATE ..... 4

SECTION 5: COARSE AGGREGATE ..... 5

SECTION 6: SAMPLES ..... 5

SECTION 7: REJECTION..... 6

## TABLES & FIGURES

---

Table 4.1 - Fine Aggregate - Grading Requirements ..... 4

Table 5.1 Limits of Physical Properties..... 5

## REFERENCED DOCUMENTS

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- AS 1141: Methods for sampling and testing aggregates
- AS 1152: Specification for test sieves
- AS 2758.1: Aggregates and rock for engineering purposes – Concrete aggregates

## SECTION 1: SCOPE

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This Technical Standard (TS) covers the supply and delivery of fine and coarse aggregates for concrete in mild exposure conditions.

Unless specified otherwise the aggregates shall be in accordance with AS 2758.1. Lightweight aggregates are excluded.

Unless specified otherwise the sampling and testing of aggregates shall be in accordance with AS 1141.

## SECTION 2: SA WATER'S REPRESENTATIVE

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SA Water's Representative in this Technical Standard will be nominated by SA Water.

## SECTION 3: SIEVES

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Sieves used in particle size determinations shall be in accordance with AS 1152.

## SECTION 4: FINE AGGREGATE

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Fine aggregate shall consist of sand having clean, hard, strong, durable, uncoated grains resulting from the natural or artificial disintegration of rock or other inert materials with similar characteristics, or a combination thereof.

Fine aggregate shall be in accordance with AS 2758.1 except for Table 3 which shall be deleted and Table 4.1 substituted:

Table 4.1 - Fine Aggregate - Grading Requirements

Sieve Size (mm)	Percent Passing	
	Natural Fine	Crushed Fine
4.75	95 - 100	90 - 100
2.36	76 - 98	60 - 100
1.18	56 - 85	40 - 80
0.600	35 - 65	20 - 60
0.300	18 - 38	10 - 40
0.150	0 - 12	0 - 15
0.075	0 - 3	0 - 6

## SECTION 5: COARSE AGGREGATE

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Coarse aggregate shall consist of crushed dolomite, quartzite or other approved stone having clean, strong, durable, uncoated particles.

The aggregate shall be in accordance with AS 2758.1 and as shown in Table 5.1.

Table 5.1 Limits of Physical Properties

Physical Properties (Tested in accordance with)	Limits
Absorption Test (AS 1141, Section 6)	AS 2758.1
Los Angeles Abrasion Test (AS 1141, Section 23)	AS 2758.1
Aggregate Crushing Value (AS 1141, Section 21)	35%
Sulphate Soundness (AS 1141, Section 24) - 5 cycles	AS 2758.1
Grading	AS 2758.1
Particle Shape (AS 1141, Section 14) % of misshapen particles using 3:1 ratio	AS 2758.1

## SECTION 6: SAMPLES

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The Supplier shall supply to SA Water's Representative NATA certified test certificates for the aggregates that have been tested in accordance with AS 1141.

The Supplier shall state the proposed source of supply for each material supplied in accordance with this standard.

Reference samples shall be supplied if requested by SA Water's Representative.

# SECTION 7: REJECTION

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Materials that do not comply with this standard and all other specified requirements of AS 2758.1 shall be liable for rejection by SA Water's Representative.

Fine aggregate having a moisture content greater than 8 percent on delivery will not be acceptable.

Tests made by SA Water's Representative to determine the acceptance or rejection of material will be carried out in accordance with AS 1141.