

Australian Standard®

Methods for sampling and testing aggregates**Method 6.2: Particle density and water absorption of coarse aggregate—Pycnometer method**

This Standard incorporates Amendment No. 1 (August 2020). The changes required by the Amendment are indicated in the text by a marginal bar and amendment number against the clause, note, table, figure or part thereof affected.

1 SCOPE This Standard sets out the method for determining the particle density, apparent particle density and water absorption of aggregates substantially retained on a 4.75 mm sieve, by weighing in water in a pycnometer.

NOTE: An aggregate containing more than 10 percent of material passing a 4.75 mm test sieve is regarded as a mixed aggregate.

A mixed aggregate is separated into two fractions consisting of material retained on and material passing a 4.75 mm sieve. The density of the fine fractions is determined separately by the method AS 1141.5. The density of the mixed aggregate is calculated as a weighted average as determined in Clause 7(e).

2 REFERENCED DOCUMENTS The following documents are referred to in this Standard:

AS

1141 Methods for sampling and testing aggregates

1141.1 Part 1: Definition

1141.2 Method 2: Basic testing equipment

1141.5 Method 5: Particle density and water absorption of fine aggregate

[Text deleted]

3 DEFINITIONS For the purpose of this Standard the definitions in AS 1141.1 and those below apply.

3.1 Apparent particle density—The dry mass per unit volume of particles, the volume including only impermeable voids inherent in the particles.

3.2 Particle density on a dry basis—The dry mass per unit volume of particles, the volume including both the permeable and impermeable voids inherent in the particles.

Impermeable voids are those inaccessible to water by 24 h soaking. Permeable voids are those accessible to water by 24 h soaking.

3.3 Particle density on a saturated surface-dry basis—The saturated surface-dry mass per unit volume of particles, the volume including both the permeable and impermeable voids inherent in the particles.