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STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard
METHODS OF SAMPLING AND TESTING AGGREGATES

STANDARDS ASSOCIATION
OF AUSTRALIA
17 AUG 1981
METALLURGY
1141.25

AS 1141.25
DEGRADATION FACTOR—SOURCE ROCK

1 SCOPE. This standard sets out the method for the determination of the degradation factor of rock spalls and drill ores. The test categorizes the fines produced by self-abrasion in the presence of water. Most of the experience with this test has been with basic igneous rocks and it may be applicable to other igneous, metamorphic and sedimentary rock.

NOTE: This test is based on Washington State Highways Department (WHS) Test Method No 1134, Method of Test for Determination of Degradation Value, as modified by Country Roads Board, Victoria, Test Method CRB 370.01.

2 APPARATUS. The following apparatus, complying with the requirements of Section 2 of AS 1141, is required:

- (a) *Balance*—of at least 2 kg capacity, readable and accurate to 1 g, with weights.
- (b) *Baskets*—woven wire mesh washing baskets—four required, with mesh opening between 1.00 mm and 2.00 mm.
- (c) *Brushes*—sieve-cleaning brushes.
- (d) *Canister*—plastics, approximately 190 mm diameter by 152 mm high, with tightly fitting lid.
- (e) *Crusher*—or other suitable equipment, for reducing the spalls and/or drill cores to the required size.
- (f) *Scalping screen*—or other suitable equipment with aperture size 12 mm minimum to 19 mm maximum (See Clause 4(c)).
- (g) *Cylinders, measuring:*
 - (i) 500 mL capacity, graduated at 100 mL intervals, with rubber or plastics stopper.
 - (ii) 10 mL capacity, graduated at 1 mL intervals.
- (h) *Cylinders, test*—sand equivalent test cylinders, with rubber or plastics stopper, as for AS 1289.C7.1.
- (j) *Dishes, trays and quartering equipment.*
- (k) *Oven*—thermostatically controlled to operate at a temperature of 105°C to 110°C.
- (l) *Sample divider (riffle splitter)*—where riffle splitters are used, see Table 1 for appropriate size.
- (m) *Shaker*—modified Tyler Shaker, with a 22.0 ± 0.25 mm eccentricity on the cam to give a total throw of 44.0 ± 0.5 mm at 300 ± 5 cycles per minute (see Fig. 1(b)).
- (n) *Sieve shaker.*
- (o) *Sieves*—300 mm diameter, complying with AS 1152:
 - (i) Nested sieves 2.00 mm and 75 μ m, fitted into a large funnel.
 - (ii) 19.0 mm, 13.2 mm, 9.50 mm, 6.70 mm, 4.75 mm (perforated plate) and 2.00 mm (wire cloth) and pan.
- (p) *Sprayer*—water sprayer, e.g. barber's spray.
- (q) *Timer*—reading in seconds.

3 SOLUTION. Sand equivalent stock solution, as in AS 1289.C7.1.

4 SAMPLE PREPARATION. The sample shall be prepared as follows:

- (a) Thoroughly wash the sample of rock spalls or drill cores, as supplied, using a stiff wire brush if necessary, to remove adhering clay or soft weathered stone.
- (b) Crush the sample to about 50 mm maximum size.