

**METHOD OF TEST FOR
RESISTANCE TO DEGRADATION OF COARSE AGGREGATE BY
ABRASION AND IMPACT IN THE LOS ANGELES ABRASION MACHINE**

1. SCOPE

1.1 This method covers the determination of resistance to degradation of coarse aggregate by abrasion and impact using the Los Angeles testing machine.

2. RELEVANT DOCUMENTS

- 2.1 ASTM C 131
- 2.2 ASTM C 535
- 2.3 AASHTO T 96
- 2.4 CSA-A23.2-16A
- 2.5 CSA-A23.2-17A

3. PROCEDURE

3.1 Procedures of ASTM Standard C 131 and C 535 shall be followed, except as noted below, for the determination of degradation of coarse aggregate by abrasion and impact using the Los Angeles testing machine.

4. EXCEPTIONS

4.1 SIEVES: Conforming to ASTM Specification E11, except use 13.2 mm sieve size instead of 12.5 mm.

4.2 Replace ASTM Standard Clause 5.4.1, with Table 1 as follows:

The abrasive charge, depending upon the grading of the test sample as described in Table 2, shall be as follows:

Table 1

GRADING	# OF SPHERES	MASS, g
A	12	5000 ± 25
B	11	4580 ± 25
C	8	3330 ± 20
D	9	3740 ± 20

Table 2: Gradation of Test Samples

SIEVE SIZE		MASS OF INDICATED SIZES, g			
PASSING	RETAINED	A	B	C	D
37.5 mm	26.5 mm	1250 ± 25			
26.5 mm	19.0 mm	1250 ± 25			
*19.0 mm	13.2 mm	1250 ± 10	2500 ± 10	-	2500 ± 10
13.2 mm	9.5 mm	1250 ± 10	2500 ± 10	-	1250 ± 10
* 9.5 mm	4.75 mm	-	-	-	1250 ± 10
9.5 mm	6.7 mm	-	-	2500 ± 10	-
6.7 mm	4.75 mm	-	-	2500 ± 10	-
TOTAL		5000 ± 10	5000 ± 10	5000 ± 10	5000 ± 10

* Material previously separated into individual sizes shall be recombined in proportion to the original or laboratory crushed gradation.

5. USE OF LABORATORY CONTROL AGGREGATE

5.1 Every ten samples, but at least every week in which a sample is tested, a sample of a reference aggregate shall also be tested. The material shall be taken from a stock supply maintained by the laboratory. The material shall be selected so as to have an average loss of 20-30%.

Note: The material selected by the laboratory may be calibrated against a supply of Brechin stone. When prepared to an 11-B grading, the mean loss of the Brechin standard reference aggregate is 23.0% (MTO MI Report 175, 1997). Individual test data should not normally be greater than 24.8%, or less than 21.2%.

5.2 Control Chart Use: The percent loss of the last twenty samples of reference material shall be plotted on a control chart in order to monitor the performance of the laboratory.

6. REPORT

The report shall also include the following:

6.1 The percent loss of the reference sample, tested closest to the time at which the aggregate sample was tested, to one decimal place.

6.2 The percent loss of the last twenty samples of reference material on a control chart.

