

State of Nevada
 Department of Highways
 Materials and Testing Division

METHOD OF TEST FOR DETERMINING THE PERCENT
 OF FRACTURED FACES

SCOPE

This test method describes a procedure for determining the percentage, by weight, of aggregate particles with at least one fractured face. A particle is defined to be fractured if it has a rough surface texture caused by natural or mechanical means.

A. APPARATUS

1. Balance. A balance or scales with a minimum capacity of 2 kg. and sensitive to 1 g. or less is required.
2. Sieves. The sieves shall be of the woven wire type with square openings, and shall conform to the Standard Specifications for Sieves for Testing Purposes. AASHTO Designation M92.
3. Splitter. Any device may be used which will divide the sample into representative portions. However, the riffle-type splitter is preferable to hand quartering.
4. Spatula. A spatula or similar tool to aid in sorting aggregate particles.

B. PREPARATION OF SAMPLE

1. Carefully quarter the test sample from the larger sample of aggregate that has been submitted to the laboratory for testing. The following table shows the minimum oven-dry weights for the different sizes of aggregates:

<u>Aggregate size</u>	<u>Weight in grams</u>
Pass 2 inch (50.8 mm)-----	4,000 \pm 100 grams
Pass 1 inch (25.4 mm)-----	2,500 \pm 50 grams
Screenings and open-graded plantmix-----	1,000 \pm 50 grams

2. Dry the test sample to constant weight at a temperature not exceeding 230° F. (110° C.).
3. Separate the test sample into two portions by means of a No. 4 (4.75 mm) sieve. Waste the portion passing the No. 4 (4.75 mm) sieve.

C. TEST PROCEDURE

1. Weigh the portion retained on No. 4 (4.75 mm) sieve and record as "Total Weight of Sample".
2. Spread sample out on a worktable, using large enough area so that individual particles can be closely inspected.
3. Use knife edge of large spatula for separating particles with one or more fractured faces from those particles that have no fractured faces (it is faster to separate particles into two separate piles by sliding them with a spatula than it is to pick up individual particles with fingers).
4. Use spatula to slide pile of particles with one or more fractured faces into balance pan. Weigh and record as "Weight of Fractured Aggregate".

D. CALCULATIONS

$$\text{Percent fractured faces} = \frac{\text{Weight of fractured aggregate} \times 100}{\text{Total weight of sample}}$$

E. PRECAUTIONS

Wash dirty aggregate. This will facilitate inspection and detection of fractured particles.

F. REPORTING OF RESULTS

Report the percent of aggregate particles with fractured faces calculated to the nearest whole number.