

State of Nevada  
Department of Highways  
Materials and Testing Division

**METHOD OF TEST FOR DETERMINING THE PERCENT OF FRACTURED FACES**

**SCOPE**

This test method determines 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.

**APPARATUS**

1. Balance, with a minimum capacity of 12,000 g and sensitive to 0.1 g.
2. Sieve, 4.75 mm (No. 4).
3. Spatula, tool to aid in sorting aggregate particles.

**SAMPLE PREPARATION**

1. Obtain a representative sample per Test Method Nev. T200.
2. Obtain a representative portion of the sample per Test Method Nev. T203. Use the following table to obtain the minimum oven-dry weights for the different sizes of aggregates:

<u>Aggregate size</u>	<u>Weight in grams</u>
Pass 50 mm (2 in.)	4,000 ± 100 g
Pass 25 mm (1 in.)	2,500 ± 50 g
Screenings and open-graded plantmix aggregate	1,000 ± 50 g

3. If the + 4.75 mm (+ No. 4) material is extremely dirty (material caked on + 4.75 mm (+ No. 4) material, wash the sample before drying.
3. Dry the sample per Test Method Nev. T112.
4. Separate the test sample into two portions by means of a 4.75 mm (No. 4) sieve. Keep the portion retained on the 4.74 mm (No. 4) sieve and waste the portion passing the 4.75 mm (No. 4) sieve.

NOTE: Sample may be obtained per Test Method Nev. T206 after the sieving operation has been completed. Keep the portion retained on the + 4.75 mm (+ No. 4) sieve and start with the "PROCEDURE" section below.

## PROCEDURE

1. Weigh the portion retained on 4.75 mm (No. 4) sieve and record to the nearest whole gram 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 the spatula to separate the particles into two separate piles. One pile with one or more fractured faces and the other pile with no fractured faces.
4. Weigh the pile with one or more fractured faces to the nearest whole gram as "Weight of Fractured Aggregate".

## CALCULATIONS

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

## REPORT

Record all the weights on NDOT form 040-013. Report the percent of aggregate particles with fractured faces calculated to the nearest whole number on NDOT form 040-010.