

**METHODS OF SAMPLING AND TESTING**  
**MT 309-15**  
**SPLITTING SAMPLES OF PLANT MIX SURFACING**  
**TO TESTING SIZE**  
**(MONTANA METHOD)**

**1 Scope**

- 1.1 This test method covers the procedure for splitting samples of Plant Mix Surfacing (PMS). Take samples in accordance with [MT 303](#). Place sampled materials in Department provided containers. The sample is to be representative of the PMS being produced. Take a field sample of sufficient mass, such that after splitting, each quarter of the field sample meets the testing requirements. Split the field sample as close as possible to the point of testing, to avoid excessive cooling of the sample.

**2 Referenced Documents**

***MT Materials Manual***

MT 303 Sampling Bituminous Paving Mixtures

**3 Apparatus**

- 3.1 *Oven* – oven capable of maintaining compaction temperature range according to mix design.
- 3.2 *Splitting Surface* – a non-stick surface such as metal, paper, canvas blanket or heat-resistant plastic.
- 3.3 *Miscellaneous Equipment* – flat-bottomed scoop, broom or brush, large spatulas, trowels, metal straight edge or 12 inch dry wall taping knife, sheet metal quartering splitter, hot plate, heat resistant gloves or mittens, pans, buckets and cans.

**4 Sample Preparation**

- 4.1 Ensure the sample is warm enough to separate. If not, warm in an oven until it is sufficiently soft to mix and separate easily.

**5 Procedure for Splitting Samples to Test Size**

- 5.1 Heat the trowel(s), spatula(s), and splitting apparatus to 110°C (230°F) minimum.
- 5.2 Remove the sample from the container(s) by dumping into a conical pile. Place the sample on a hard, clean, non-stick, level surface where there will be neither loss of material nor the accidental addition of foreign material.
- 5.3 Mix the material thoroughly by turning the entire sample over four times. With the last turning, form the entire sample into a conical pile.

*Note 1 – Accomplish mixing by turning the pile with a heated spatula or by rolling the material over with paper or other material used for the rolling surface. Do not re-mix samples of lean mixes or mixes with aggregate larger than ¾" (19mm).*

- 5.4 Flatten the conical pile to a uniform thickness and diameter by pressing down with a hot spatula or trowel. The diameter should be four to eight times the thickness.
- 5.5 Divide the flattened pile into four approximately equal quarters with a heated spatula, trowel, flat metal plate, or sheet metal quartering splitter.
- 5.6 With the quartering apparatus in place, using a straightedge (taping knife), slice through the quarter of the PMS from the apex of the quarter to the outer edge. Pull or drag the material from the quarter holding one edge of the straightedge (taping knife) in contact with the quartering apparatus.
- 5.7 Slide or scoop the material into a sample pan. Repeat step 5.6 removing a similar amount of material from the opposite corner and repeat until all the samples for testing have been obtained.

*Note 2 – When reducing the sample to test size it is advisable to take several small increments determining the mass each time until the proper minimum size is achieved. Unless the sample size is grossly in excess of the minimum or exceeds the maximum test size use the sample as reduced for the test.*