

1809 Bituminous Mixture Samples - Voids**1809.1 Sample Preparation**

- A.** Heat the sample in its container until it becomes workable, a range of 70 – 110 °C (160 – 230 °F).
- B.** Immediately place into a large pan sufficient material to run all requested tests. Return extra material to its container and save for a short time in case re-checks are needed.
- C.** Thoroughly hand mix the material in the pan with a scoop and trowel.
- D.** Take a representative 2000 - 2100 gram sample for extraction and gradation if required. (Test according to Manual Section 1203.5 and Sections 1851, 1852 or 1853 as appropriate).
- E.** Re-mix and quarter the material remaining in the pan

Note 1: When quartering the sample the goal is to be as representative as possible for all the tests.
- F.** From one part weigh out 2000 – 2050 grams of material to run the maximum specific gravity ("Rice test") and spread it out in a pan – (Test according to Section 1807).
- G.** From the other three-quarters prepare three specimens for bulk specific gravity on Marshall mixtures or at least two if not three specimens for gyratory mixtures.
- H.** For each of the three Marshall specimens weigh out enough material for a 63.5 ± 3.175 mm (2.5 ± 0.125 "") puck, approximately 1200 grams, but it will vary depending upon the aggregates. (Refer to Section 1805.7)
- I.** For Gyratory mixtures weigh out enough material for a puck that will compact to 115 ± 5 mm in height at design. Somewhere between 4800 – 4900 grams per specimen should be adequate but it will be dependent upon the level of gyrations and the aggregate.
- J.** Return the molds with the material into an oven and bring the material to 135 ± 5.6 °C (275 ± 10 °F) or to the compaction temperature required for the PG graded asphalt used in the mixture. (See Notes 2 thru 4.)

- K.** When the material reaches the desired temperature, compact and measure in accordance with Section 1805 or 1820.

Note 2: Be certain to measure the material temperature; the thermometer must not touch the bottom or side of the mold.

Note 3: After the material in the molds has reached 135 ± 5.6 °C (275 ± 10 °F) or the required temperature for the PG graded asphalt, compaction must commence within 30 minutes.

Note 4: Before reusing the same mold for an additional sample, place it back into an oven and reheat for at least 5 minutes.

- L.** Determine the bulk specific gravity according to Section 1806.
- M.** Determine the air voids in accordance to Section 1808.
- N.** Determine the adjusted AFT in accordance to Section 1854.