

PERFORMANCE EXAM CHECKLIST

Uncompacted Void Content of Fine Aggregate for AASHTO T 304

Participant Name: _____ Exam Date: _____

Record the symbols “P” for passing or “F” for failing on each step of the checklist.

Procedure Element (all test methods are AASHTO unless otherwise shown)

Sampling

Trial 1 Trial 2

1. Sample obtained by one of the following:

(a) T 2 & T 248 (sampling, splitting and quartering)?

or (b) From sieve analysis samples used for T 27?

or (c) From aggregate extracted from a bituminous concrete specimen (T 308)?

2. Methods A

(a) Sample washed over No. 100 or No. 200 sieve in accordance with T 11?

(b) Sample dried and sieved into separate size fractions in accordance with T 27?

(c) Necessary size fractions obtained from sieve analysis maintained in a dry condition in separate containers for each size?

Sample Preparation

Method A- Standard Graded Sample

1. Following quantities of aggregate that has been dried and sieved in accordance with T 27 weighed out and combined?

Individual Size Fractions	Mass, g	OK?
No. 8 to No. 16	44 ± 0.2	
No. 16 to No. 30	57 ± 0.2	
No. 30 to No. 50	72 ± 0.2	
No. 50 to No. 100	17 ± 0.2	
Total:	190 ± 0.2	

Specific Gravity of Fine Aggregate

If bulk dry specific gravity of aggregate from the source is unknown, specific gravity determined on material passing No. 4 sieve in accordance with IT 144.

Procedure

1. Each test sample mixed with spatula until it appears to be homogeneous?

2. Funnel stand apparatus with cylindrical measure, positioned in retaining pan?

3. Finger used to block opening of funnel?

4. Test sample poured into funnel?

5. Material in funnel leveled with spatula?

6. After funnel empties, excess heaped aggregate struck off from cylindrical measure by single pass of spatula, with blade width vertical and using straight part of its edge in light contact with top of measure? _____

7. Care exercised to avoid vibration or any disturbance that could cause compaction of aggregate into cylindrical measure? _____

Note: After strike-off, measure may be tapped lightly to compact sample to make it easier to transfer container to scale or balance without spilling any of the sample.

8. Adhering grains brushed from outside of container? _____

9. Mass of cylindrical measure and contents determined to nearest 0.1 g? _____

10. All aggregate particles retained for second test run? _____

11. Sample from retaining pan and cylindrical measure recombined and procedure repeated? _____

12. Mass of empty measure recorded? _____

13. Calculations performed properly? _____

Formula for Calculation of Uncompacted Voids, percent

$$U = \frac{V - \left(\frac{F}{G}\right)}{V} \times 100$$

where:

- U = uncompacted voids, percent;
- V = volume of cylindrical measure to nearest 0.1 mL;
- F = net mass, g, of fine aggregate in measure; and,
- G = bulk dry specific gravity of fine aggregate (G_{sb})

Comments: First attempt: Pass ☐ Fail ☐ Second attempt: Pass ☐ Fail ☐

Signature of Examiner_____.