

DETERMINATION OF AMOUNT OF ASPHALT-COATED PARTICLES IN COARSE AGGREGATE

LS-621 R33

1. SCOPE

1.1 This method describes the procedure for the determination of the amount of asphalt-coated particles blended with natural aggregates for use in granular base, sub-base, or shoulder material.

3. DEFINITIONS

3.1 A STAINED PARTICLE: is defined as one in which the original aggregate particle surface is discoloured due to the absorption of asphalt cement. The surface of the particle can still be observed through the discolouration. The stain cannot be removed by a knife blade without abrasion or removal of the original particle surface.....

3.2 A COATED PARTICLE: is defined as one in which asphaltic material covers the original aggregate particle surface. The coating can be penetrated by a knife blade and has a measurable thickness, which can be observed by cutting it with the blade. The coating can be removed without damage to the original particle surface. Coating is measured as a percentage of the total external surface area of the particle.....

3.3 An ASPHALT MATRIX PARTICLE: is defined as one that is predominantly asphaltic concrete. It may contain variable amounts of asphalt cement and fine and/or coarse aggregate particles.....

4. PROCEDURE

4.1 Separate by splitting approximately 1000 g from the stone portion (retained on the 4.75 mm sieve) of a sample of aggregate containing blended asphaltic material.....

4.2 Weigh the sample to the nearest 1.0 g and record the mass as "A".....

4.3 Examine the particles and separate them into the following categories:

Category I: Coated particles with more than one third (33%) coating, and asphalt matrix particles.....

Category II: All other particles: Uncoated, unstained particles, stained particles, and coated particles with less than one third (33%) coating.....

4.4 Weigh the particles contained in Category I to the nearest 1.0 g and record the mass as "B" ..

5. CALCULATIONS

5.1 Calculate the percent asphalt-coated particles (ACP) in the test sample using the following formula:

$$\% \text{ ACP} = (B/A) \times 100$$

Where:

A = original mass of sample

B = mass of asphalt-coated particles with more than one third (33%) coating and asphalt matrix particles (Category I)

Note 1: The percent reclaimed asphalt pavement (RAP) in the test sample may be calculated by removing the unstained, uncoated particles from Category II, the remaining mass is then added to the mass of Category I and expressed as a percentage of the original sample. The percent RAP and percent ACP may differ.

DETERMINATION OF AMOUNT OF ASPHALT-COATED PARTICLES IN COARSE AGGREGATE

LS-621 R33

6. REPORTING RESULTS

6.1 Report the percentage of asphalt-coated particles to the nearest whole percent..... _____

7. INTERPRETATION OF RESULTS

7.1 Specifications contain permitted limits on the maximum amount of asphalt-coated particles in granular materials. For example, Ontario Provincial Standard Specification 1010 allows a maximum of 30% asphalt-coated particles in granulars. In some cases, the amount of reclaimed asphalt pavement (RAP) may be required by special provision. In these cases, see note above..... _____

COMMENTS