Australian Standard®

Methods of sampling and testing asphalt

Method 11: Degree of particle coating

1 SCOPE This Standard sets out the method for determining the degree of particle coating of asphalt of nominal size 7 mm or greater, based on the percentage of coarse aggregate particles that are completely coated with binder.

2 REFERENCED DOCUMENTS The following documents are referred to in this Standard:

AS
1152 Test sieves
2891 Methods of sampling and testing asphalt
2891.1 Method 1: Sampling of asphalt

3 DEFINITIONS For the purpose of this Standard, the definitions given in AS 2891.1 apply.

4 APPARATUS The following apparatus is required:

(a) *Sieves*—9.50 mm and 4.75 mm, of 200 mm diameter in accordance with AS 1152.
(b) *Sampling scoop*—in accordance with AS 2891.1.
(c) *Trays*—of suitable size for sorting aggregate.
(d) *Forceps*—of suitable size for examining aggregate.

5 SAMPLE PREPARATION Obtain a sample of hot asphalt, in accordance with AS 2891.1, from the truck but do not cone and quarter. The sample shall be large enough to yield a minimum of 200 particles retained on the 4.75 mm or 9.50 mm sieve as appropriate. The 4.75 mm sieve shall be used for asphalt mixes of 10 mm nominal size or less and the 9.50 mm sieve shall be used for asphalt mixes of nominal size larger than 10 mm.

6 PROCEDURE The procedure shall be as follows:

(a) Sieve the sample while it is still hot over the 9.50 mm or 4.75 mm sieve, taking care not to overload the sieve. If necessary, sieve the sample several times to obtain the required number of particles.
NOTE: Shaking the material on the sieve should be reduced to a minimum to prevent coating of previously uncoated particles.
(b) Place the particles retained on the appropriate sieve in one particle layer in a large clean tray and commence examination immediately. Using the forceps, carefully examine each particle, viewing only the upper surface, under good lighting conditions such as direct sunlight or fluorescent light. Classify the particle as partially coated if even a tiny speck of uncoated stone is noted and place it in a separate tray. Classify the particle as completely coated if it is completely coated and place in another tray.
(c) Count the number of particles classified as partially coated and the number of particles classified as completely coated.

7 CALCULATION Calculate the degree of particle coating (*PC*) to the nearest 0.1% from the following equation:

$$PC = \frac{N_c}{N_c + N_p} \times 100 \qquad \text{.... 7(1)}$$

where

PC = degree of particle coating, in percentage
N_c = number of completely coated particles
N_p = number of partially coated particles.

8 REPORT The degree of particle coating shall be reported to the nearest 1%.