

2009 EVALUATING SERVICEABILITY OF FIELD ROUND TEST SIEVES ASTM E11 / AASHTO R-18

2009.1 SCOPE

The round testing sieves used in field testing should be examined annually by qualified personnel of the District Materials office.

2009.2 EQUIPMENT REQUIRED

- A. A caliper readable to 0.01 mm or a verified taper drop gage.
- B. An eye comparator with a 0.1 mm scale or a magnifier (for use with sieves finer than 4.75 mm).

2009.3 PROCEDURE

The annual examination of sieves is necessary to remove damaged or worn sieves from service. Each sieve should be checked carefully for the following items:

- A. The sieve frame should bear the manufacturer's label stating the sieve size. Unlabeled sieves should be checked in the District Lab. and correctly labeled.
- B. The sieve should easily nest with other sieves in good condition. This is frequently a repairable item. Poor nesting is cause for rejection.
- C. The sieve cloth should be carefully examined for the following:

NOTE 1: Viewing a sieve against a uniformly illuminated background will aid in the detection of weaving defects, wrinkles, oversize openings, etc.

1. Excessive (greater than 20%) foreign matter in the cloth, if found, is unacceptable and the sieve should be cleaned or removed from service. The sieve should be brushed clean using light pressure on the cloth. Excess pressure will cause a concave mesh on the coarser sieve and stretched or loose cloth on the finer sieves.
2. Carefully examine the mesh for broken or bent wires, dented mesh, mesh separated from frame.
3. Concave mesh (coarser sieves) is cause for rejection.
4. Stretched, loose or wavy mesh (finer sieves) is cause for rejection. Sieves that have been examined and considered serviceable should be marked O.K., initialed and dated (month and year), using tape or other marking method. Rejected sieves shall be marked and recycled.

5. Check for pin holes on finer sieves. Oversize openings whose width deviates by 10% of the average opening size are apparent to the unaided eye. If one oversize opening is detected the sieve is unacceptable.

6. For sieves coarser than the 4.75mm (#4), scan the entire sieve mesh and measure a minimum of 5 openings including any that are unusual in size or distorted. If no openings appear out of the ordinary, the openings may be chosen at random. Measure each opening as the distance between parallel wires measured at the center of each opening. Measure each opening in both the x(horizontal) and y(vertical) directions. Record and verify that the openings are in compliance with the Coarse Sieve Requirements – ASTM E11 Table. See Section 2008.8 for table.

