

ATT-27/95 SIEVE TEST, Seal Coat Emulsions

1.0 SCOPE

This method describes the procedures for testing asphalt emulsions for non-dispersed asphalt globules.

2.0 EQUIPMENT

800 Fm sieve (76 mm diameter frame, 0.8 mm wire cloth)
sieve pan
wash bottle
1.5 kg metal pail
plastic pail
distilled water (for testing cationic emulsions)
2% sodium oleate solution (for testing anionic emulsions)
electronic balance

3.0 PROCEDURE

1. Ensure the sieve and sieve pan are clean and dry, then weigh them together. Record as Dry Wt. of Sieve + Pan.
2. Wet the wire cloth of the sieve with distilled water, if testing cationic emulsions, or sodium oleate solution if testing anionic emulsions.
3. Tare a 1.5 kg metal pail. Weigh 1000 grams of the emulsion into the pail.
4. Hold the sieve over a plastic density pail in one hand, and pour the emulsion through the sieve with the other hand. Do not allow the sieve to plug up.
5. When testing cationic emulsions, use the wash bottle filled with distilled water to wash the sieve until the wash water runs clear.

When testing anionic emulsions, use the wash bottle filled with sodium oleate solution to wash the 1.5 kg metal pail and sieve until the wash solution runs clear.
6. Place the sieve pan under the sieve, and set them both in the oven. Dry for 2 hours at 105EC.
7. Allow the sieve and pan to cool until just warm to the hand, then weigh. Record as Dry Wt. of Sieve + Pan + Non-Dispersed Asphalt.

8. Determine the Percent Retained on the 800 Fm sieve as follows:

$$\frac{(\text{Dry Wt. of Sieve \% Pan \% Non\&Dispersed Asphalt}) \& (\text{Dry Wt. of Pan \% Pan \% Non\&Dispersed Asphalt})}{1000}$$

4.0 HINTS AND PRECAUTIONS

1. When there are no asphalt lumps on the sieve after washing, stop the test and report the % retained as 0.
2. When testing anionic emulsions, follow the procedure above, substituting a 2% sodium oleate solution for the distilled water.
3. Cationic emulsions will coagulate upon dilution with water. For this reason, only the sieve is washed in step 5 when testing these asphalts.
4. If the sieve gets plugged up, discard the sample and repeat the test.