

## ATT-65/96, EMULSION BREAKING POINT

### 1.0 SCOPE

This method describes the procedure for determining the breaking point of emulsified asphalt mixes.

### 2.0 EQUIPMENT

1 litre jar with lid  
flat bottom scoop  
20 litre plastic water jug and potable water

### 3.0 PROCEDURE

Emulsified asphalt mixes are composed of aggregate and an emulsified asphalt, which is an asphalt cement suspended in water. The breaking point of an emulsion is the point when the asphalt cement separates from the water. The emulsified asphalt mix must break before the mix is spread and compacted. Determine the breaking point of the mix as follows:

1. Use a scoop to obtain a representative sample of emulsified asphalt mix from the windrow and fill the jar approximately one third full.
2. Add potable water to the mix until the jar is approximately two thirds full.
3. Place the lid on the jar tightly.
4. Shake the jar for approximately 5 seconds to fully blend the water with the mix.
5. Place the jar upright on a flat surface and inspect the water.

If the water is brown or cloudy, the emulsion mix has not broken and additional drying of the mix in the windrow is necessary.

If the water is clear, the emulsified mix has broken and the windrow is ready for spreading and compacting.

## **GUIDELINES FOR COMPACTING EMULSIFIED ASPHALT MIXES**

The compaction of emulsified asphalt mixes should start at the same time as the emulsion starts to break. The breaking point is determined using the Emulsion Breaking Point test.

After the mix has been hauled to the road and bladed into a windrow, the Emulsion Breaking Point should be performed every 200 m. The visual inspection of the water in the test indicates how close the mix is to the breaking point.

If the water is brown, the mix needs a lot of drying before it breaks. The contractor should work the mix for about three hours and then perform a test every 200 m.

If the test water is cloudy, the mix is close to breaking but still needs some drying. The mix should be worked for about an hour and before it is tested every 100 m.

If the test water is clear, the mix has reached its breaking point and is ready for spreading and compacting. Take tests between the previous tests so that tests have been taken every 50 m. This is to ensure all mix has been dried to the breaking point. Contractors should work the areas which have not broken.

Once the mix is ready for spreading and compacting, moisture contents should be taken every 300 m, as directed in ATT-15, Part II, MOISTURE CONTENT, Oven Method. These results should be reported on the Weekly Cutback or Emulsified Mix Report.

The suggested times between tests are guidelines. Times vary because they are dependent on humidity, ambient temperature and wind velocity.

At ambient temperatures of 10EC or less, the working of the mix becomes much more difficult.

Avoid hauling mix when there is a chance of rain.

The Emulsion Breaking Point test and the above guidelines are a construction aide for the contractor. This procedure allow contractors to take responsibility for the quality control portion of the lay down operation. It also reduces the frequency of quality assurance testing. Breaking Point spot checks and moisture contents every 300 m is the minimum amount of testing needed once the contractor has acquired the expertise.