

## **Field Shear Vane Test for Cold Recycled Asphalt**

(Modification of Utah Shear Vane Test)

### **1. SCOPE**

- 1.1 This method covers a method for performing shear vane testing on cold recycled asphalt, whether cold in-place recycled or cold central plant recycled, to determine the progress of curing after compaction.
- 1.2 This test method may involve hazardous material, operations, or equipment. This test method does not purport to address all of the safety concerns associated with its use. It is the responsibility of the user to consult and establish appropriate safety and health practices and determine the applicability of any regulatory limitations prior to use.

### **2. APPARATUS**

- 2.1 Sledge Hammer – A minimum of 5 lbs
- 2.2 Torque Wrench – Capable of recording torque to 0.5 ft-lb increments within the range of 25 to 150 ft-lb
- 2.3 Shear Vane – See Figures 1 and 2
- 2.4 15/16 Inch Socket with a 1/2 Drive
- 2.5 Protective Shear Vane Cover (optional) – A metal cover of any configuration used during the shear vane driving process which facilitates hammering and protects the shear vane during hammering.



FIGURE 1

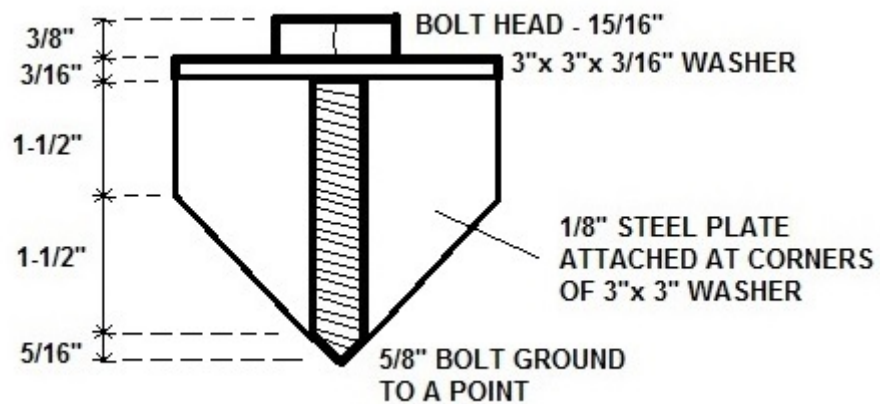


FIGURE 2

### 3. PROCEDURE

- 3.1 Select a test location according to project specifications and at least 1 foot from the edge of the cold recycled asphalt and other test sites.
- 3.2 Using the hammer, drive the shear vane into the cold recycled asphalt, keeping the shear vane vertical, until the washer sits flush on the surface.

**Note:** The socket or a protective shear vane cover must be on the bolt head before striking with the hammer so that the shear

vane is not damaged. Care must be taken to keep the device as vertical as possible to minimize damage to the cold recycled asphalt before testing.

- 3.3 Place the torque wrench onto the head of the shear vane bolt. Apply slight downward pressure to ensure that the shear vane does not lift during the test.
- 3.4 Evenly apply pressure to the torque wrench (90 degrees in 10 seconds) while watching the dial closely. Apply increasing pressure until the cold recycled asphalt is broken loose by the shear vane.
- 3.5. Record the highest torque value reached during test.
- 3.6 Determine and record the pavement temperature at two inches below the surface with an infrared thermometer.
- 3.7 The test will leave a hole in the mat. Repair by pressing loose material into the hole and coating the location with emulsion.

#### **4. REPORT**

- 4.1 Record the following information:
  - 4.1.1 Time and date of the test
  - 4.1.2 Location including stationing and offset
  - 4.1.3 Maximum torque value achieved in ft-lb
  - 4.1.4 Pavement temperature at a depth of two inches