



WSDOT Test Method T 432

Flexibility Test for Hot-Melt Adhesives

1. Scope

This method describes the determination of flexibility of hot-melt adhesives under specific conditions.

2. Referenced Documents

- a. WSDOT SOP 318 – Standard Operating Procedure for Melting of Bituminous Pavement Marker Adhesive.
- b. ASTM D3111 – Standard Test Method for Flexibility of Hot-Melt Adhesives by Mandrel Bend Test Method – modified to meet WSDOT specification.

3. Apparatus and Materials

- a. 1 diameter Mandrel and holder.
- b. Three-specimen stainless steel flexibility mold, 1/8 x 1 x 6 dimensions.

4. Procedure

- a. Adhesive material is melted and prepared by Liquid Asphalt lab per WSDOT SOP 318.
- b. Test specimens poured into the flexibility mold.
- c. Test specimens allowed to cure at room temperature for at least one hour.
- d. The test specimens removed from the mold and conditioned at 20°F for minimum of four hours.
- e. The 1 diameter Mandrel and its holder are also conditioned at 20°F for minimum of four hours.
- f. Flexibility test is done in the same environment used to condition the specimens, by bending each specimen over the 1 Mandrel in an arc of 90° at a uniform rate for ten seconds.

5. Report

Flexibility shall be reported as Pass/Fail. Failure is a visible fracture, crazing, or cracking of the hot-melt adhesive that can occur at any time during the bending of two out of the three specimens.

