PROCEDURE FOR VERIFYING SOFTENING POINT APPARATUS AASHTO T 53

A. PURPOSE

This procedure provides instruction for checking the equipment used to perform the Softening Point Test.

B. APPARATUS REQUIRED

1. Calibrated calipers readable to 0.05 mm
2. Balance, Class G2.

C. PROCEDURE

1. Measure all diameters and dimensions of the shouldered ring using calibrated caliper. Measurements should be taken at two (2) different locations on ring. Report measurements to the nearest 0.1 mm.
2. Measure the length and width of the pouring plate using calibrated caliper. Report measurements to the nearest 1 mm. Place plate on flat surface and check for flatness.
3. Measure the steel balls using calibrated caliper. Measurements should be taken at two (2) different locations. Report measurement to the nearest 0.1 mm.
4. Weigh steel balls using balance. Report weight to the nearest 0.01 gram.
5. Measure all diameters and dimensions of the ball centering guide using calibrated caliper. Report measurements to the nearest 0.1 mm. Check centering guide for symmetry.
6. Measure inside diameter and depth of softening point bath (beaker) from bottom of bath to the flare. Report measurements to the nearest 1 mm.
7. Measure all diameters and dimensions of the ring holder using calibrated caliper. Report measurements to the nearest 0.1 mm.

D. TOLERANCE

The equipment shall meet the tolerance specified in AASHTO T 53.

EQUIPMENT VERIFICATION RECORD

Verified By: _____ Date: _____

Equipment: Softening Point Apparatus Location (Lab): _____

Identification No.: _____ Verification Frequency: _____

Previous Verification Date: _____ Next Due Date: _____

Verification Equipment Used: Calibrated caliper, ID # _____ Balance, ID # _____

Verification Procedure: (In-house) OMR-CVP-30 / AASHTO T 53

1. *A***	Rings*: O.D. at top of shoulder 22.7-23.3 mm (0.90-0.92 in.)							
*B***	I.D. at top of shoulder 19.5-20.1 mm (0.77-0.79 in.)							
*C***	O.D. at bottom of ring 18.5-19.1 mm (0.73-0.75 in.)							
*D***	I.D. at bottom of ring 15.6-16.2 mm (0.62-0.64 in.)							
*G***	Total height 6.0-6.8 mm (0.23-0.27 in.)							
2.	Pouring Plate, 50 X 75 mm (2 x 3 in.)							
3.	Steel Balls*: Diameter, 9.5 mm (0.375 in.)							
	Weight 3.45 – 3.55 g							

*Make and record two measurements.
**See AASHTO T 53, Figure 1

4. Ball Centering Guides:
   (a) Two brass guides resembling guides in Fig. 1 (c) available? ..... _____
5. Bath:
   (a) Beaker, 800 ml, Griffin Low-form, heat resistant glass? ..... _____
6. Thermometer:
   (a) One of the following thermometers available? ..... _____
   ASTM 113C or 113F ..... _____ IP 89C or 89F..... _____
   (b) Thermometer can be read after 3 min. (approx. 10C, 50F) with bulb at bottom of rings?..... _____
   Method of Checking? ..... _____ Quality Control/Thermometer #? ..... _____
7. Ring Holder:
   (a) Holder accommodates two rings only?..... _____
   (b) Bottom of rings 24.6 – 26.2 mm (0.97 – 1.03 in.) above upper surface of bottom plate?..... _____
   (c) Lower surface of bottom plate 12.7 to 19.1 mm (0.5 to 0.75 in.) above bottom of the bath?..... _____
8. Miscellaneous:
   (a) Release agent available? (standard or comparable)..... _____
   (b) Ethylene Glycol? ..... _____
   (c) Base Plate?..... _____
   (d) Forceps?..... _____
   (e) Knife or spatula?..... _____