



Sword Hardness SOP-LANE-1

STANDARD OPERATING PROCEDURES

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PURPOSE

To determine the hardness of organic coatings on lane panels.

MATERIALS

1. Gardco GS-1 Sward-type digital hardness rocker
2. Draft cover
3. Leveling plate with glass surface
4. Isopropyl alcohol
5. Kim wipes
6. Circular level
7. Panel Testing Device
8. Wand
9. Lane panel or overlay sample to be tested, measuring 6" x 36".
10. Stopwatch, or smart phone/computer with stopwatch feature.

EQUIPMENT / SET UP PROCEDURE

Verify Calibration

1. Place the leveling plate on a clean, flat surface.
2. Place the circular level on the plate.
3. Adjust the leveling screws on the plate in accordance with the bubble level.
4. Using a Kim wipe and isopropyl alcohol, clean the surface of the leveling plate and the rings on the bottom half of the Sward hardness rocker.
5. Allow Sward hardness rocker and leveling plate to dry thoroughly.
6. Turn on the sward hardness rocker with the switch on the back and place the Sward hardness rocker on the leveling plate.
7. Place the draft cover over the leveling plate so that the opening is facing the front of the rocker.
8. Use the wand and rotate the rocker to the left at about a 25-degree angle.
9. Release the rocker.
10. When the digital display on the rocker begins to count (at approximately 22 degrees), start the stopwatch.
11. Stop the stopwatch when the digital display reads 50 ± 1 swings; the time should be 60 ± 5 seconds.
12. Repeat steps 8-11 for confirmation of calibration.
13. If the hardness rocker needs to be calibrated, refer to manual for calibration process.

TESTING PROCEDURE

Data Collection

1. Insert the lane surface sample into the Lane Panel Testing Device from one end, and hand-tighten the clamps.
2. Clean the sample with isopropyl alcohol and allow it to dry completely.
3. Ensure the sample is level by placing the circular level in the center of the panel on the left side of the Lane Panel Testing Device. Adjust hand-clamps or stability feet if necessary. (If the surface is not level and cannot be made level, place the sample on the master level).
4. Repeat step 3 for the center and the right side of the Lane Panel Testing Device.
5. Place the Sward hardness rocker in the center of the lane panel sample on the left side of the Lane Panel Testing Device.
6. Place the draft cover over the rocker on the sample so that the opening is facing the front of the rocker.
7. Use the wand and rotate the rocker to the left at about a 25-degree angle.
8. Release the rocker.
9. When the digital display stops counting (the low set limit is approximately 16 degrees), double the number of swings on the rocker, and record that number in the lane panel test sheet.
10. Repeat steps 5-9 using the center and the right side of the Lane Panel Testing Device.
11. The test sheet will average the three readings and give you the Sward Hardness value for that sample.

CALIBRATION

The sward hardness rocker does not require annual calibration as this procedure is covered with every use. If the unit is giving false readings or displaying error warnings, the sward hardness rocker will be sent to Gardco for repairs and evaluation.