

## IN-HOUSE PROCEDURE # \_\_\_\_\_

### PROCEDURE FOR VERIFYING GYRATORY MOLDS

Item:

Gyratory Mold

Purpose:

This method provides instructions for checking the general condition and critical dimensions of a gyratory mold.

Inspection Equipment Required:

1. 3-Point bore gauge readable to 0.001 in. (0.0025 mm) or better
2. 6 in. (150 mm) calibrated master ring
3. (2) Gauge blocks – 2 in. (50 mm) in height
4. Caliper with a range of at least 12 inches (305 mm) and readable to 0.001 in. (0.025 mm) or better

Tolerance:

Equipment shall meet the dimensional tolerances specified in the applicable test method.

Procedure:

1. Remove coatings of oil, asphalt or solvents from mold surface.
2. Inspect the mold for gouges.
3. Allow the bore gauge, calibrated master ring, and mold to achieve a temperature of 64 – 82 °F (18 – 28 °C).
4. Measure the inside length of the mold to the nearest 0.004 in. (0.1 mm) or better.
5. Measure the wall thickness of the mold.
6. Place the master ring on a flat surface. Place the bore gauge inside the master ring and extend the contact points until loose contact is achieved. Use a small circular motion while continuing to extend the contact points until firm contact is made with the master ring.
7. Confirm or re-set the bore gauge to read within 0.0001 in. (0.0025 mm) of the calibrated size of the master ring.
8. Identify the wear area of the mold and place the mold in a vertical position with the wear area on top.
9. Mark measurement locations on top and bottom of mold. Locate position A which can be anywhere, B is 90 ° from A, and C is 180 ° from A.
10. ELEVATION 1 - Place a 2 in. (50 mm) gauge block inside the mold. Place the bore gauge inside the mold resting on the gauge block. Align one arm of the bore gauge with the A mark. Tighten the bore gauge using a circular motion until firm contact with the mold side is made. Record the reading to at least the nearest 0.001 in. (0.0025 mm). Loosen the bore gauge and rotate to position B. Tighten and record reading. Repeat at position C.
11. ELEVATION 2 - Turn the mold so the opposite end is on top. Place the 2 in. (50 mm) gauge block inside the mold. Take measurements at A, B, and C.
12. Add a second 2 in. (50 mm) gauge block for a total height of 4 in. (200 mm). Take measurements at A, B, and C.
13. If all measurements are within the allowed tolerance and no gouges are present, then the mold is acceptable.

## IN-HOUSE PROCEDURE # \_\_\_\_\_

### PROCEDURE FOR VERIFYING GYRATORY END PLATES

Item:

Gyratory End Plate

Purpose:

This method provides instructions for checking the general condition and critical dimensions of a gyratory end plate.

Inspection Equipment Required:

1. Caliper with a range of at least 12 inches (305 mm) and readable to 0.001 in. (0.025 mm) or better

Tolerance:

Equipment shall meet the dimensional tolerances specified in the applicable test method.

Procedure:

1. Remove coatings of oil, asphalt or solvents from the end plate surface.
2. Inspect the end plate for deep gouges.
3. Allow the end plate and outside measuring instrument to achieve a temperature of 64 – 82 °F (18 – 28 °C).
4. Measure the diameter of the end plate in several locations. Mark the largest diameter with a removable mark. Record the maximum diameter of the end plate to the nearest 0.001 in. (0.025 mm) or better as measurement A.
5. Measure the diameter of the plate at 90 ° from the maximum diameter. Record this as measurement B.
6. If all measurements are within the allowed tolerances and without deep grooves, the end plate is acceptable.