EQUIPMENT SPECIFICATIONS

Standard Operating Procedure: SOP-BALL-6

Roundness of a Bowling Ball

Rev	Date	Staff Member	Purpose
5	6/8/22	D. Speranza	expanded note in calibration section
4	11/13/19	A. Stanton	Add calibration/verification procedure
3	02/18/19	J. Milligan	Update Logo
2	1/22/14	E. Troutman	Edited for clarification
1	02/16/09	N. Mours	rewrite for clarification
Origination date: 10/29/07		Originator: T. Robben	

EQUIPMENT SPECIFICATIONS

Purpose: To determine the total runout (amount out of round) of a bowling ball.

Materials:

- Bowling ball to be tested
- Clean towel
- Federal dial indicator with spring sensor
- Isopropyl Alcohol
- Roundness test stand

Procedure:

1. Be sure the surface of the bowling ball is clean, dry and free of any foreign substances or dirt before continuing.

2. Place the bowling ball in the ball holder on the base of the roundness test stand.

3. Slide the bowling ball in the ball holder back in the test stand until it stops, and the ball is under the sensor on the dial indicator.

4. Adjust the bowling ball so the pin is directly to the right of the sensor on the dial indicator and the CG marking on the bowling ball is facing you.

5. Align the "0" marking and needle on the dial indicator.

6. Slowly rotate the bowling ball towards you for one complete revolution while watching the displacement of the needle on the dial indicator. Note the upper and lower limits of displacement of the needle on the dial indicator.

7. Record the difference in the maximum and minimum values in the needle displacement on the dial indicator. This is the total runout in inches for that circumference of the bowling ball.

8. Slide the bowling ball in the holder forward (towards you). Rotate the bowling ball one quarter turn to the right so the pin is now on the right-hand side of the bowling ball.

9. Slide the bowling ball in the holder back in the test stand until it stops, and the ball is under the sensor on the dial indicator.

10. Repeat step 4-7.

Examine the total runout for both circumferences of the bowling ball tested. The larger of the two values is recorded as how much the bowling ball is out-of-round in inches.

If ball results indicate roundness is out of spec:

If any test ball has results outside of the roundness specification, the dial indicator must be verified. Place a flat block under the dial indicator and adjust the indictor to read zero. Slide a 0.010" feeler gauge under the dial indicator. It should measure the same as the feeler gauge thickness or the dial indicator needs to be sent out for calibration.

Calibration

The dial indicator is to be calibrated annually by a professional calibration company.