

Standard Operating Procedure: SOP-BALL-8

Coefficient of Restitution of a Bowling Ball

<u>Rev</u>	<u>Date</u>	<u>Staff Member</u>	<u>Purpose</u>
2	12/18/19	A. Stanton	Minor updates to equipment/database
1	5/17/2011	J. Milligan	Update procedure since implementation of Labview.
Origination date:06/17/2010		Originator: D. Johnson	



Purpose: To determine the coefficient of restitution of a bowling ball.

Materials:

- CoR ramp
- Lexan sensor cage
- 4 sensors
- USBC CoR-device capture software with Lenovo computer (or comparable)
- Twister test pin for standardized testing
- Ball to be tested

Procedure:

1. On the desktop, double click on the 'COR Project' icon.
2. If nothing happens go to My Computer and click on the 'P' drive. Once signed into the 'P' drive close the folder and repeat step 1.
3. Double click on COR Test 3-23-11.vi in the Project Explorer window.
4. Select Ball Test in the Test Type box.
5. Click the Run icon (it's the arrow in the upper left of the window).
6. Enter Ball Brand.
7. Enter Ball Model.
8. Enter Ball Serial Number.
9. Make sure the sensor cage is lined up with the back corners of the COR ramp.
10. Align the standard Twister pin against the metal angles on the level lane surface with the pin's model label facing towards the ramp.
11. Ensure that the last two sensors on the top of the cage are solid green. (If flashing, adjust accordingly until the light is a solid green).
12. Bring the bowling ball to be tested to the top of the ramp until it triggers the lever. Once the lever is triggered, the program is ready to record data.
13. Release the bowling ball so that it rolls freely down the rails of the ramp and hits the pin.
14. Align testing pin against the metal angles on COR ramp and adjust the position of the pin approximately 36 degrees past its previous position.



15. Repeat steps 9-14 for a total of ten runs.
16. Close the program.

Generate the Test Report

17. On the (P:) drive of the computer, open the 'BowlingBallCOR' Microsoft Access database.
18. Locate and select 'BallMasterList' from the left column.
19. Using the date filter on the resulting table, look for the date corresponding to the data you need.
20. Find the ball you need and record the COR numbers into Bowling Ball Test Report.
21. Save and exit the database.