

USBC research uncovers new facts about bowling ball movement

08/22/07

USBC Equipment Specifications and Certification

As part of its overall study of bowling ball motion, the United States Bowling Congress has uncovered key technical findings about how modern bowling balls act on a lane. Ultimately, these types of studies can help bowlers select bowling balls that best suit their games.

Recent scientific research by engineers at the USBC testing and research facility has shown that the **values relating to radius of gyration** - the concept of how easy a bowling ball rotates around an axis - remain approximately the same as bowling balls make their way down a lane.

Another important discovery USBC made is that several factors - including the **ball's cover stock material**, the **shape of the ball's core**, the **core's angle** and the **oil pattern** on the lane - have no significant effect on axis migration, the way the rotation point of a ball changes as it rolls down the lane.

It was found that axis migration is dependent on physics concepts such as the radius of gyration.

These topics have been the subject of several studies within the bowling industry in recent months, but no one has fully evaluated the migratory path of a bowling ball as it rolls down a lane until now, said USBC Technical Director Neil Stremmel.

"As USBC learns and understands more about the motion of modern bowling balls through this type of breakthrough research, it helps connect science and the sport of bowling," Stremmel said.

USBC was able to use some of its most sophisticated technology for these studies, including high speed digital cameras that shoot at 300 frames per second.

USBC plans to follow up on this initial research with several new rounds of testing in this area, Stremmel said.