

# New bowling ball specification will affect manufacturers, not bowlers

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## USBC Equipment Specifications and Certification



**New bowling ball specification** will affect manufacturers, not bowlers. In April 2009, the USBC Equipment Specifications and Certification team will begin enforcing a new specification that limits the surface roughness-Ra of all bowling balls certified for competition from that point forward.

The new specification is designed to guide manufacturers as they create future releases and will have no impact whatsoever on the legality of bowling balls certified for competition prior to April 2009.

It also is important to note that this specification deals with chemical surface roughness, which is measured by USBC engineers during the bowling ball certification process. It will not place any limitations on bowling ball surface adjustments made by individual bowlers after purchase; therefore, all previously-allowed surface adjustments will still be deemed legal.

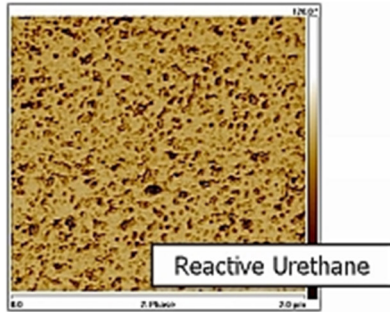
"This is a win-win situation because this specification will move us another step closer to regaining the balance between skill and achievement in the future, and, in the short term, it doesn't take anything away from bowlers," USBC Technical Director **Steve Kloempken** said.

The USBC Equipment Specifications and Certification team measures chemical surface roughness using two factors, Ra and RS.

Surface roughness-Ra is a measure of the microscopic spikes on a bowling ball's surface. Surface roughness-RS measures the distance between those spikes.

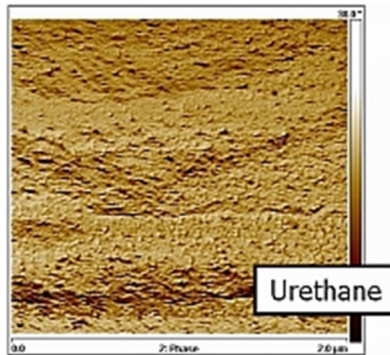
Generally speaking, bowling balls with aggressive ball motion will have cover stocks that feature tall surface spikes that are spaced far apart. Balls with weaker ball motion, plastic balls, for example, will have cover stocks featuring smaller surface spikes that are bunched

closer together.



*The cover stock of this reactive bowling ball is full of deep pores that draw lane oil away from the ball's surface as it rolls down the lane. This allows the cover to maintain friction with the lane and promote aggressive ball motion.*

*Click on the images to enlarge.*



*The cover stock of this traditional urethane (non-reactive) bowling ball has very shallow pores that make the surface appear much smoother than that of the reactive ball pictured above. Shallow pores fill with lane oil more quickly and cause a loss of friction that decreases the overall aggressiveness of*

*the ball's motion.*

Under the new specification, all balls certified for competition after April 2009 must have an average surface roughness-Ra measurement of 50 or fewer microinches.

"Now manufacturers will have a high-end limit to work within when creating bowling balls, and that is an unprecedented step in the area of specifications and certification" USBC Senior Research Engineer **Paul Ridenour** said.

The specification came about after a two-year, comprehensive bowling ball motion study determined that surface roughness measurements are the No. 1 factor that affect bowling ball motion.

Modern bowling balls often are constructed using porous chemical materials in the cover, allowing balls to cut through lane oil and achieve strong ball motion into the pins. It has been determined that, if left unregulated, modern bowling balls could have a

disproportionate impact on scoring relative to player skill. This specification aims to stop that trend.

"For the first time in the sport of bowling, USBC has created a method capable of measuring differences of bowling ball cover stock chemistry by means of porosity and surface roughness," said USBC Vice President - National Governing Body **Neil Stremmel**. "With this specification and others set in the recent past, USBC is taking a step toward the re-balancing of player skill and success in the sport of bowling."