

# BIG BERTHA 19 IRON'S NEW SUSPENDED ENERGY CORE

The innovative new internal workings of the new Big Bertha 19 iron, including the new Suspended Energy Core that promotes distance-enhancing speed and launch conditions without sacrificing great sound and feel, makes this the best game-improvement iron we've ever created.

It starts with a piece of MIM'd tungsten located low in each clubhead. MIM'd tungsten is a mixture of tungsten and steel, in the form of spheres about the size of BBs, that's injection molded then baked, shrinking its size into a single, dense, heavy piece. In the Big Bertha 19 iron, the MIM'd tungsten weight concentrates a lot of weight into a small area very low in the head, while a new polycarbonate medallion in the back of the head saves 30 grams. The shape, size, weight and position of the tungsten piece is different in each iron, to promote the optimum combination of speed, launch angle and spin-rate in the long-, middle- and short-irons. Together that allows for an astonishingly low CG that promotes easy launch and high, long-carrying flight.



What's truly innovative is that the tungsten piece is suspended in a layer of urethane infused with thousands of tiny air pockets called microspheres. The urethane absorbs unwanted vibration to deliver excellent sound and feel, while the microspheres "give" at impact to allow the face to flex freely. This is a significant advancement because, in the past, vibration-absorbing materials touching the inner side of the face have slowed face speed, thus negatively affecting the purpose of a fast-faced iron. Previous Big Bertha iron models are hollow, so the difference in sound and feel between them and Big Bertha 19 is significant. So is the ease of launch.

Additional technologies include Callaway's renowned 360 Face Cup technology, which promotes faster ball speed on both center and off-center hits.

"This is an extremely sophisticated iron," said Dr. Alan Hocknell, Callaway's senior vice president of R&D. "Installing as much weight as we have, as low as we have, using the MIM'd tungsten piece and polycarbonate medallion, has lowered the CG tremendously, fortifying the ball speed mechanism and promoting higher launch, both of which promote longer distance. Meanwhile, suspending the tungsten weight in urethane infused with microspheres creates an exceptionally soft, agreeable feel we've never been able to achieve in this type of iron."

