

What Are Golf Balls Made Of That Make Them Go So Far?

In the chemistry of air pressure, turbulence, and aerodynamics, surface structures are vital physical element. History has it that there are things that seem to be peculiar on their make-up hundreds of years ago which eventually came up with a better composition based on scientific research. And a golf ball is the best paradigm of this theoretical stand in history. During the earliest days of golf on the eastern coast of Scotland, most players used ancient apparatus in order to play the game in a more disorganized and informal way. Here, the first clubs and golf balls are made up of wood. It was on 1618 that the feather golf ball was finally introduced. This was commonly known as the "Featherie". This feather golf ball was a handcrafted ball made with goose feathers securely pressed into a horse or cowhide sphere. This is being done while the ball is still wet. After drying, the leather shrank and the feathers expanded creating a hardened ball. But because these kinds of golf balls are specially handcrafted, they usually cost higher than the clubs. In doing so, only a few privileged people could afford to play golf during those times. Next, came the Guttie golf ball. This prehistoric kind of golf ball was made from the rubber like sap of the Gutta tree that can be found in the tropics. Normally, these Guttie balls can be easily shaped into a sphere when hot and eventually used as a golf ball. With its rubber nature, guttie balls can be cheaply reproduced and can be easily repaired by reheating and reshaping. However, between the two earliest forms of golf balls, the feather golf ball was said to travel farther than the gutties. This is due to the smooth surface of the gutties that limits the capacity of the golf ball to cover more distance. With this new scientific analysis, the developers of golf ball finally came up with balls with the "dimples" that are predominant in modern golf balls nowadays. Dimples are crafted into golf balls so as to reduce the aerodynamic drag, which will be acting on the ball if it were totally smooth. This is because smooth balls, when sailing through the air, leave a huge pocket of low-pressure air in its stir therefore creating a drag. With the application of drag, the ball slows down. Hence, by having dimples on golf balls, the pressure differential goes down and the drag force is reduced. These dimples create turbulence in the air surrounding the golf ball. This, in turn, forces the air to clasp the golf ball more closely. By doing so, the air trails the warp created by the ball towards the back instead of flowing past it. This results to a smaller wake and lesser drag. Dimples also help players to put backspin on a shot making the golf ball break off on the putting green. The idea of putting dimples on golf balls can be traced back during the gutta percha phase. Coburn Haskell introduced the one-piece rubber cored ball encased in a gutta percha sphere. It was during this time when the players observed how their shots become more and more predictable as their balls turned rough from play. When William Taylor applied the dimple pattern to a Haskell ball in 1905, golf balls finally took their modern form. From then on, dimpled golf balls were officially used in every golf tournament. In 1921, the golf balls took its form with standard size and weight. Today, there is an abundant selection of golf balls to fit different golf game and condition. There are golf balls that offer control, while some offer distance. In whatever ways golf balls vary, only one thing is common and known. Golf balls are not just elements of the sports arena; they are more than ever paradigm of a concept in physics.

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