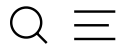


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What is Forged Composite: A New Way of Using Carbon Fiber

Lamborghini and Callaway teamed up together to develop a new way of using carbon fiber that helps open the door to making parts that may once have been too complex to do using traditional methods. The outcome is called Forged Composite and it's already being used in Callaway golf clubs as well as [Lamborghini's Sesto Elemento concept car](#).

Rather than laying up carbon fiber in sheets and impregnating it with resin like your typical carbon fiber manufacturing, Forged Composite uses a paste of fibers (500,000 turbostratic fibers per square inch) mixed with a resin that is squeezed out to make almost any shape. Since the fibers aren't oriented in any particular direction, the finished part is strong all around, while remaining light. While we don't know for sure, our initial thought is that a part made of Forged Composite may be strong, it is not *as* structurally strong as a traditional carbon fiber part (Any experts, please comment).

From an appearance perspective, it does look quite a bit different than the woven fibers we are used to seeing. I would say Forged Carbon is best described as a marbled carbon fiber appearance. Take a look at how our [Forged Carbon case for the iPhone XS Max](#) came out:



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How Callaway Uses Forged Composite

Callaway developed a new line of drivers called the Diablo Octane in which they say "will overpower titanium". They state the driver is lighter, stronger, and has a faster head speed than one made of titanium. The increased power to weight ratio is said to increase the net drive by an impressive 8 yards.



Image Source: Wired/Callaway

In a [video with Roger Cleveland](#), Chief of Golf Club Design at Callaway, he illustrates how much of a titanium crown has to be ground away before its weight would match that of a Forged Composite one; about a third was taken off before the weights became equal.

Callaway conducted a study with consumers to see what they thought aesthetically of the composite on the driver and found that while people liked it, they prefer the "less is more" approach. In response, they designed the club head to only show accents of raw Forged Composite. Callaway will eventually phase out all of their titanium drivers in lieu of Forged Composite. They have released two videos, one [about Forged Composite](#), and another [about the new driver](#). They turned off the ability to embed the videos, so you'll have to watch on YouTube.

How Lamborghini Is Using Forged Composite

Lamborghini utilized Forged Composite on both the monocoque chassis as well as the suspension arms on the new [Sesto Elemento concept car](#). While it's not used in a production car just yet, we expect to see it soon with replacements for the Gallardo and the Murcielago in the not too distant future (Update: Lamborghini is now using Forged Composite extensively in their mainstream vehicles).





Source: Autoblog/AOL

While Forged Composite in our opinion is not as visually pleasing as a traditional carbon fiber part, its potential for useful applications is exciting. We haven't heard if the cost of manufacturing is less than a traditional part, but our guess is yes. The process sounds like it would be much less labor-intensive and may even make use of injection molding that can help automate manufacturing (Experts, please chime in).

Sources: Callaway, [Autoblog](#), [Wired](#)

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