

Porsche Ceramic Composite Brakes



Some of you may not even know if you have Porsche Ceramic Composite Brakes (PCCB), so if you don't go out and look for this:

If you have these yellow brake calipers on your Porsche then you have Porsche Ceramic Composite Brakes. Next you say so what and what are they?

Most brake systems on most vehicles on the road today use brake discs made of cast iron. Porsche does also, and those brakes are some of the most exceptional brakes made for any vehicle, period. But what Porsche along with many high performance auto manufacturers also offer are very advanced Ceramic Composite Brakes.

Porsche Ceramic Composite Brakes (PCCB) use a cross-drilled, carbon fiber reinforced ceramic disc with special composite pads. During manufacture, the basic disc molding (made from a carbon-fiber and polymer mix) is silicated (made into a silicate compound) in a special high-vacuum process. Like Porsche's conventional discs, the PCCB parts are cross-drilled and directionally vented as shown in this cutaway illustration.

A PCCB brake disc weighs 50% less than its cast-iron counterpart despite considerably larger dimensions.



Like a competition-bred conventional system, the ceramic outer disc is mated to a steel inner "hat." PCCB brakes use specially developed six-piston calipers on the front and four-piston calipers on the rear.

The PCCB pads offer a high coefficient of friction for moderate pedal efforts and unusual consistency of friction characteristics across a wider range of operating temperatures than is available with Porsche's conventional brakes. Several different pad compounds are available for street and various levels of track use.

Another key benefit of PCCB is its exceptional durability. While the actual rate of wear on all brake components--particularly pads and discs--is entirely dependent on individual driving style and vehicle usage, comparison testing reveals a much longer life expectancy with PCCB than with conventional braking systems; as long as 160,000 miles or more under normal driving conditions. It is important to note that racing and other extreme driving can significantly reduce the life expectancy of any vehicle component. After any driving event, have the vehicle, including all PCCB components, thoroughly checked and replaced as necessary.

PCCB systems are expensive to order for a new Porsche or to retrofit. By far the most cost effective way to get them is to simply check the option box when ordering your Porsche. The price of all the individual parts comes to near \$25,000, but some the upgrade kits can be cheaper, which is still considerably more than the option cost. On the Cayman and Boxster the cost for PCCB is \$7,400, and on all the other models it costs \$8,520 to order.

The \$7,400 or \$8,520 question is whether they are worth the extra money? The online Porsche forums have a wealth of information on this topic as well as some spirited debates. Most seem to say that the PCCB systems are better for road driving than for track driving. Clearly, even with the advantages in durability and fuel economy, one doesn't choose PCCB in order to save money. This is one case where it will really pay off to do your homework if you are considering ordering a new Porsche with PCCB.

Oh, and if you went out to the garage or driveway and found out that you do in fact have PCCB on your existing Porsche, you now know you have great brakes that will last you a long time, but know that when they do wear out, it will be an expensive repair bill.