

BEYOND COLOUR

Brembo continues to experiment with colour, playing with the latest trends in fashion, art, style and design.

Since its very first famous red caliper more than 25 years ago, Brembo has increasingly focused on and pushed for the colour of its products in order to characterize and strengthen the distinctive features of each car it equips.

Today it continues to amaze and, after almost sixty years of innovation, goes further, with a provocation on colour, which once again makes it a pioneer not only in technology, but also in design.

For the Geneva Motor Show, in fact, Brembo was inspired by the world of fashion, design, art and style to coat some of its calipers with unusual "clothes" for a car component, in a journey of provocations, chromatic suggestions and graphic textures.

You can see the caliper painted with a camouflage pattern, a classic, here revisited in the colour of the year* or, for lovers of luxury, the glittered caliper, and for the trendiest and most irreverent, here is the caliper with the unmistakable reference to the famous English fabric with argyle pattern.

The journey continues with a look at the past, with the "vintage" caliper, simple and minimal, which recalls the geometries of the '70s, or the caliper with fluorescent, contrasting and sometimes excessive colours of the '90s, and again with a creative caliper inspired by writers and street art.

Brembo's experiments do not stop there: if the new trend of the moment suggests an aggressive look, here is the caliper that recalls the spotted coat of the felines, and the tattooed caliper, with its dragon.

And for nature lovers, there is also a green interpretation.

These are just a few suggestions that will not go into production and that Brembo presents to underline the perfect mix of aesthetics and functionality, which make each Brembo caliper an icon of style.

*PANTONE® 16-1546 Living Coral

<https://www.pantone.com/color-intelligence/color-of-the-year/color-of-the-year-2019>

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DUAL-CAST BRAKE DISC

The Brembo floating disc concept, now even lighter

Brembo introduces the second generation of the dual-cast floating brake disc made of two materials: cast iron and aluminum.

The second generation of the dual-cast brake disc is an alternative to the “classic” version already available on the market, improving the fluid dynamic efficiency and therefore reducing the operating temperatures, thanks to an optimization of the drag and ventilation geometries.

This disc has many benefits: weight reduction by about 20% (compared to an integral disc of the same dimensions), greater comfort, reduction of corrosion and wear and better performance of the components.

A fundamental characteristic of this type of disc is the cast iron braking band and the aluminum bell, which combine the advantages of the way cast iron performs at high temperatures with the lightweight properties of the aluminum.

The innovation consists in the way the two materials were combined into a single component and in the performance of the disc itself; in fact, it is an integral disc at low temperatures and it performs as a floating disc at high temperatures, when top performance is demanded and the disc tends to deform.

The dual-cast brake disc also meets the need of drastically reducing weight, combined with an improved braking feeling in the most extreme uses and an increase of resistance to fatigue at high temperature.

This allows for a significant reduction in transitory and permanent thermal deformations. The former occur typically while braking, when the disc reaches high temperatures; the latter, on the other hand, are the leading cause of vibrations in the vehicle.

Cast iron has outstanding thermal characteristics, such as reduced deformability and good conductivity; it also has benefits in terms of processing, like high castability and workability because of the lubricating effect of the graphite and the advantages of use, such as its good damping properties.

Aluminum, on the other hand, has excellent lightweight features; in fact, it is 2 and a half times less dense than cast iron, allowing for an overall disc weight reduction compared to the same integral version of about 20%, depending on the applications.

The result is significant because it is achieved on the “unsprung weight” of the vehicle, which has a decisive impact on driving comfort and precision, as well as fuel consumption.

Also, because of its thermal properties, when aluminum is at temperature, it allows the braking band to slide, following its natural tendencies to expand in these conditions. This gives it the performance capacity of a floating disc, without the number of components needed for a floating assembly.

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LIGHTWEIGHT BREMBO BRAKE DISC, NOW EVEN BIGGER!

Extended range and increased diameter

At the International Motor Show in Geneva, Brembo is presenting an extension of its lightweight brake disc range with the arrival of a version for high-performance vehicles.

Introduced a few years ago, the lightweight brake disc is the result of a partnership project with Daimler in which the company strongly believed, and which allowed to introduce on the market a product with absolutely innovative characteristics.

Over the years, Brembo has continued to develop and, thanks to in-depth product and process studies, is now able to offer all its customers a lightweight brake disc designed for applications on vehicles with an ultra-performing vocation, introducing a different form of ventilation, optimized according to the fluid dynamics of the car and, above all, with larger dimensions (395x36mm) than the range currently in production.

This is a patented solution which allows for better dissipation of the heat developed during braking in a way combined with a reduction of the generation and propagation of thermal cracking.

Always committed to finding new technological and environmentally friendly solutions aimed at meeting the increasingly stricter demands of the market in terms of reducing weight, Brembo has developed a disc which combines two different materials: cast iron and steel.

The most important advantage stems from the steel bell, which reaches a thickness of just 2.5 mm, instead of the 7.5-9 mm of the classic cast iron bell, at the same level of performance.

This significant weight reduction allows to obtain a brake disc that, depending on the geometry of the bell, is anywhere from 10-15% lighter.

This means that this disc achieves an important result in the search for weight reduction, letting the vehicle significantly reduce fuel consumption and, consequently, achieve a lower impact on the environment: one of the "musts" in the design guidelines for components in the automotive market.

The special conformation of the steel bell, developed through the use of precision gear technology, and its particular connection to the cast iron band facilitates the joining of the two parts and the two different materials, as well as increasing the mechanical resistance of the disc.

In 2013, the year this lightweight disc was launched, this represented a great challenge for Brembo even in terms of production, because it was the first one to be made anywhere in the world.

This has enabled the company to position itself today as a strategic and global supplier of brake discs to the world's largest players.

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