

Alfa Romeo 4C

Alfa Romeo has unveiled more technical and production information about the forthcoming Alfa 4C, which will be making its dynamic UK debut at this year's Goodwood Festival of Speed.

The 'compact supercar' perfectly embodies the Alfa brand with Italian style, sporty performance and engineering excellence offering maximum driving satisfaction in total safety.



Alfa Romeo 4C: Excellence made in Italy

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The captivating coupé with two bucket seats uses technologies and materials derived from the 8C Competizione - carbon, aluminium, rear-wheel drive - and technologies from the latest Alfa Romeo models, but thoroughly developed to enhance the sports appeal of the new car.

This is demonstrated by the new 1750 Turbo Petrol engine with direct injection and aluminium block, the sophisticated "ALFA TCT" twin dry clutch transmission and the Alfa D.N.A. selector with the brand-new Race mode.

Built in Modena, birthplace of the world's most famous sports cars, the Alfa 4C's production process integrates Alfa Romeo's design roles

and Maserati's manufacturing functions with engineering and technological contribution from Italian world-wide leaders in the component industry for high-performance sports cars.

To design a car that is both exclusive and achievable for Alfa Romeo fans across the world, the Alfa 4C's designers focused on lightness and efficiency over greater horsepower, which would have impacted the purchase and maintenance costs.

Combining high technology and craftsmanship through an advanced mix of hi-tech materials which combine stiffness and strength but also with reduced weight, the Alfa 4C's weight to power ratio is less than 4kg/HP with a total dry weight of just 895kg, making 4C one of the lightest cars in the world.

CARBON FIBRE

The Alfa 4C uses 10% carbon fibre which represents 25% of the car's overall volume. Carbon fibre currently offers the best weight/stiffness efficiency. The structural function monocoque, designed by the Alfa Romeo specialised team, makes up the central, load-bearing cell of the chassis yet weighs just 65kg.

Joining state-of-the-art Formula 1 inspired manufacturing technology and the manual craftsmanship typical of the Italian artisans, Alfa Romeo is the only brand capable to assure a production of over 1,000 pieces per year.

ALUMINIUM

Aluminium was used for the roof reinforcement cage and the front and rear frameworks. To reduce weight but increase stiffness, the designers replaced the traditional rectangular strut section with a

newly designed section, manufactured using the innovative 'Cobapress' process, which combines fusion and forging under press for a lighter and safer framework.

Aluminium in the hybrid-type front brake discs with aluminium bell and cast iron ring gear also reduced weight by up to 2kg per disc, in addition to providing better braking.

SMC (SHEET MOULDING COMPOUND)

Using SMC (Sheet Moulding Compound), a low-density and high resistance composite material, for the body enabled a 20% weight reduction in comparison to traditional sheet steel. The Alfa Romeo 4C is the first standard production car to achieve such a high percentage of low-density SMC. With a weight of 1.5 g/cm³ this material is decidedly lighter than steel (~7.8 g/cm³) and aluminium (~2.7 g/cm³), besides being more malleable in terms of design it also disperses noise well for acoustic comfort. Low-density SMC also reduces the number of components and operations required together with shorter assembly times, thus lowering production costs.

PUR-RIM (INJECTED POLYURETHANE)

The PUR-RIM (injected polyurethane) on the bumpers and wings weighs 20% less than steel and is suitable for creating complex design elements, such as the 4C wing, and for keeping an ideal cost/production volume ratio.

WINDOWS

With the window glass, the overall weight was reduced by a real silhouette-thinning approach: all the window glasses are on average around 10% thinner than those normally fitted on cars, allowing for an average weight reduction of 15%. The windscreen is also only 4 mm thick – difficult to obtain on such thin glass with the car's particularly aerodynamic shape.

QUALITY CONTROL

To ensure the utmost quality of each Alfa 4C, the production process takes place in dedicated 4C workshops with the 'testing' and 'finishing' areas shared with the Maserati production.

Every day several sample bodies are checked by a dedicated team on over 400 high precision measurement points to ensure the body is perfect from a geometric and dimensional standpoint.

Once the car's manufacture is complete, every detail is strictly checked by systems: from the climate control system operation to the mechanical component settings and the dynamic behaviour.

Each Alfa 4C produced is also road-tested for 40 km by an experienced test-driver – a practice commonly used for the most prestigious supercars.

To see a video of the Alfa 4C's production process, click here: <http://youtu.be/wBLGnBLQyVw>