ALFA ROMEO 4C PRESS KIT

The Italian revolution begins: All-new Alfa Romeo 4C Coupe has arrived in Australia, offering groundbreaking design, F1-inspired technology and true supercar performance

February 19, 2015

- Jaw-dropping looks, breathtaking performance: 177kW @ 6,000rpm, 350Nm @ 2,200rpm and Zero to 100km/h in a blistering 4.5secs.
- Race-inspired performance: 4C offers advanced materials and technological solutions from Formula 1 including carbon-fibre monocoque, aluminium chassis structures and a composite body shell for an ultra-lightweight design with incredible performance.
- State-of-the-art powertrain technology: all- aluminium 1750cc direct-injection turbocharged engine with intercooler, dual variable-valve timing and advanced scavenging technology is paired to a blistering fast Alfa TCT (twin-clutch transmission) with Alfa DNA selector.
- Excellence made in Italy: Alfa Romeo 4C combines the best technical and manufacturing competencies of two brands, Alfa Romeo and Maserati.
- The all-new Alfa Romeo 4C coupe has arrived in Australia with an MSRP of just $89,000.
- Also available as limited-edition, generously specified Launch Edition, with an MSRP of just $109,000.

Alfa Romeo's stunning 4C is set to take Australia's supercar segment by storm, offering F1-inspired technology, jaw-dropping looks and phenomenal performance at an incredibly attainable price.

Alfa Romeo's halo sportscar has arrived in two distinct variants, the uniquely appointed Alfa Romeo 4C Launch Edition with a MSRP of $109,000, and the stunning Alfa Romeo 4C Coupe with a MSRP of $89,000. The 4C Launch Edition is limited to 1,300 units worldwide, of which Australia has secured an initial allocation of 75 units.

Both models offer stunning mid-engine proportions, near-perfect weight distribution and each draws inspiration from the brand's proud racing heritage to combine design and technology for maximum performance.

The Alfa Romeo 4C is inspired by the century-old tradition of Alfa Romeo and projects the brand's values for the future: Italian style, performance and engineering excellence and maximum driving satisfaction

The “4C” name recalls Alfa Romeo's great sporting tradition: the acronyms 8C and 6C in the 1930s and 1940s distinguished racing and road cars fitted with powerful eight and six cylinder engines. The 2015 Alfa Romeo 4C model’s designation continues this tradition with the latest all- aluminium 1750cc turbocharged direct injection four-cylinder engine.

Designed to be innovative and revolutionary

The Alfa Romeo 4C confirms its supercar credentials by offering:

- Most advanced and innovative engine and gearbox
- A near 50-50 weight balance
- A unique set of F1-inspired technical solutions
- Class exclusive power-to-weight ratios
- Groundbreaking design and performance that’s distinctly Italian

Supercar performance, compact size

Thanks to Alfa Romeo 4C’s advanced technological solutions and compact size, the coupe demonstrates its precision, agility and performance credentials with:

- 400cm overall length
- 186cm overall width
- 118cm overall height
- 258km/h top speed
- 0-to-100km/h acceleration of 4.5secs
- 0.335 Coefficient of drag (Cd)
- Lateral acceleration >1.1 g
- Maximum braking deceleration > 1.25g
- 1,025kg mass

High-tech 1750 Turbo engine and Alfa TCT pair for exceptional performance

The engine is the beating heart of any Alfa Romeo, and for the 4C, it beats to an all-new 1750cc direct-injection, all-aluminum engine. To ensure exceptional performance and drivability on the racetrack or city streets, this new engine features cutting-edge technical solutions, including direct-injection, intercooler, dual (intake and exhaust) continuous variable-valve timing (VVT), a crankshaft with eight counterweights, and intake and exhaust systems optimized for Alfa Romeo 4C’s mid-engine layout.

A new generation turbocharger features a pulse-converter exhaust manifold to exploit

pressure waves and boost torque at low-engine speeds. A waste gate valve adjusts turbo pressure and improves the engine's efficiency. Advanced scavenging technology enables the Alfa Romeo 4C to maximize torque at low engine speeds and deliver more response to driver input by increasing combustion efficiency and turbine speed, all while eliminating turbo lag. As a result, torque delivery is instantaneous, with a peak of 350Nm; 80 percent of which is available at only 1,700rpm.

Teamed to the all- aluminium engine is a paddle-shifting Alfa TCT twin-clutch transmission, which has been specifically tuned for the all-new Alfa Romeo 4C. With its uniquely calibrated software that adjusts with the Alfa DNA selector system, the Alfa TCT's gearshifts are designed to become most aggressive in the Dynamic and Race modes. The Alfa TCT system also integrates a "launch control" mode – delivering the utmost acceleration possible as soon as the driver releases the brake.

Innovative Alfa DNA selector

The all-new Alfa Romeo 4C features the brand's innovative Alfa DNA selector with "Race" mode – enabling the driver to optimize the right level of performance through four modes. With a touch of the Alfa DNA selector, the character of the Alfa Romeo 4C can be changed to (in order of increasing capability):

- All-weather – designed to ensure maximum control under adverse weather conditions and enables gentler accelerator input and special engine and brake control logic to match road speed and prevent skidding.
- Natural – enables grand touring comfort and smooth drivability for the Alfa TCT gearbox.
- Dynamic – enables improved driving performance via a more aggressive powertrain calibration and less intrusive electronic stability control (ESC) setting.
- Race – is the most extreme performance mode, putting the driver in total control of the car under race conditions. ESC and anti-slip regulation (ASR) are deactivated to allow the driver to control traction through the accelerator pedal. The Alfa Romeo Electronic Q2 differential control system remains active for fast exits out of corners or bends. In Race mode, launch control can be activated, allowing the Alfa Romeo 4C to deliver supercar-level 0-to 100km/h acceleration blasts of just 4.5 seconds.

For driving convenience in Dynamic, Natural or All-weather modes, the Alfa Romeo TCT gearbox can utilise an "auto" mode.

4C combines the best technical and manufacturing practices of Alfa Romeo and Maserati

The very best technical and industrial expertise of the Alfa Romeo and Maserati brands were used to develop the all-new Alfa Romeo 4C.

Teamwork between the two brands included the integration of the Alfa Romeo Style Center design with the well-known craftsmanship of the Maserati brand's Modena production plant. In addition, the Alfa Romeo 4C was boosted by the technological contributions of Italian suppliers, who are international leaders in manufacturing high-performance components.

This is a distinguishing trait of Alfa Romeo, a brand with a century of history that continues to be one of the most famous and popular ambassadors of Italian products around the world.

"The all-new 4C represents the purest formation of the brand's DNA with its supercar-levels of performance and innovation, all while focusing on making the driver an integral part and completion of the machine," said Harald Wester, global CEO of Alfa Romeo.

"With its technological solutions derived directly from Formula 1, the Alfa Romeo 4C creates a fusion of body and machine, an extension of its driver's soul that is ready, capable and willing to respond and deliver."

Limited to an initial allocation of 75 units: 2015 Alfa Romeo 4C Launch Edition

These vehicles include the following beyond the generously appointed 4C Coupe.

- Rosso Alfa, Rosso Competizione or Madreperla White exterior paint
- Bi-LED headlamps with illuminated daytime running lights
- Front fascia with side air intakes and carbon fiber rear spoiler and mirror caps
- Race suspension tuning with front- and rear-sway bars and shock absorbers
- Racing exhaust
- Staggered 18-inch (front) and 19-inch (rear) forged wheels painted in Matte Black
- Red lacquered brake calipers
- Sport seats with black microfiber
- Red or White interior accent stitching on the steering wheel, seats and door handles
- Interior Carbon Fiber Trim Plates Cluster bezel, Gear shift bezel, Passenger side trim plate

Technical specifications

ENGINE	
Type	1750 cc, aluminium, 4 cylinders, turbocharged
Position	Central
Orientation	Transverse
Displacement (cm³)	1742
Maximum power kW (HP-EC) at rpm	177 (240) 6000
Maximum torque Nm at rpm	350 between 2200 and 4250
DRIVING MODE SELECTOR	
Type	Evolved Alfa DNA
Positions	All Weather, Natural, Dynamic, Race
TRANSMISSION	
Gearbox	Alfa TCT with dual dry clutch, paddle controls and Launch Control
Number of gears	6 + R
Drive	Rear
Differential	Electronic Q2
CHASSIS	
Type	Carbon fibre monocoque
Front suspension	Double wishbone
Rear suspension	Evolved MacPherson
Front brakes (mm)	Dual-cast, perforated, self-ventilated 305x28 discs with Brembo fixed 4 piston callipers
Rear brakes (mm)	Perforated, self-ventilated 292x22 discs
Standard front tyres Launch edition	205/45 R17 205/40 R18
Standard rear tyres Launch edition	235/40 R18 235/35 R19
STEERING	
Steering box	Rack and pinion
PERFORMANCE	
Acceleration 0–100 km/h (secs)	4,5
Braking distance 100 - 0 km/h (m)	36
Top speed (km/h)	258
Maximum deceleration when braking (g)	1,25
Maximum lateral acceleration (g)	1,1
CAPACITIES – WEIGHTS	
Weight (kg)	1025
Fuel tank (litres)	40
CONSUMPTION – EMISSIONS **according to Directive 1999/100/EC**	
Consumption (l/100 km) urban cycle	9,8
Extra-urban cycle	5,0
Combined cycle	6,8
CO2 emissions (g/km)	157
DIMENSIONS	
Length (mm)	3989
Width (mm)	1864
Height (mm)	1183
Wheelbase (mm)	2380

All-new Alfa Romeo 4C Coupe in detail

Engine

- Direct-injection 1750 Turbo Petrol engine
- Aluminium block and specific intake and exhaust systems
- Top speed 258km/h and from 0-100 km/h in just 4.5 seconds
- Direct petrol injection, dual continuous variable valve timing system, turbocharger and 'scavenging' system that eliminates 'turbolag'

The Alfa Romeo 4C's 1750 Turbo Petrol with direct injection at 200 bar is capable of truly exceptional performance. The Alfa Romeo 4C accelerates from 0 -100 km/h in just 4.5 seconds and develops a top speed of over 250km/h. Driving pleasure is magnified by the full, rich sound of the exhaust, where the low frequencies and classic roar have been emphasised.

Aluminium block and specific intake and exhaust systems

The 1750 Turbo Petrol engine implements an innovative aluminium block and specific intake and exhaust systems which have been optimised to enhance the sports appeal of the car even further.

In addition, it boasts cutting-edge technical solutions including direct fuel injection, dual continuous variable valve timing system, a turbocharger and a revolutionary scavenging control system that gets rid of any turbo lag.

In line with the search to achieve as much lightness as possible, the 4C's engine weighs 22kg less than that of the Giulietta Quadrifoglio Verde. Helping reach this goal is the aluminium block with die-cast inserts that not only is lighter, but also contributes toward improving the rigidity of the engine and reducing its vibrations (fewer vibrations were obtained also by using a crankshaft with eight counterweights, which allows the maximum rpm to be increased).

To optimise performance, emissions and oil consumption, the cylinder head intake ducts were redesigned, as were the cylinder liners, which today are made of a special cast iron that is thinner. The pistons have new segmenting with reduced load.

'Scavenging' technology

The Alfa Romeo 4C's advanced 'scavenging' technology maximises torque at low engine speeds and delivers more power in response to driver input. The control unit determines valve overlap times and angles with great precision to create a through-flow of air from the inlet manifold to the exhaust manifold. By improving the scavenging of the combustion chamber, this direct flow increases combustion efficiency and turbine speed and reduces turbo-lag.

Turbocharger

To complement the 'scavenging' technology, the engine is also equipped with a new generation turbocharger and a pulse converter exhaust manifold that exploits pressure waves to boost torque at low engine speeds. The manifold and the turbine are made from microcast steel and designed to operate at very high temperatures (over 1000°) - a pre-requisite to low fuel consumption on medium-high speed motorway journeys. The wastegate valve is another helpful device for engine efficiency. This adjusts turbo pressure using control logic which varies to suit driving conditions, minimising pumping losses.

After-Run Pump

Like all top competition cars, the Alfa Romeo 4C uses an automatic cool-down system to protect its turbocharger. Switching off the engine would normally cause the immediate stoppage of oil circulation, leaving the oil in the turbocharger to stagnate at very high temperatures. The thermal stress suffered by the oil in this way causes a loss of lubricating capacity and also leads to the formation of residues that can damage the engine. To prevent this, Alfa Romeo has introduced an after-run pump. This electric pump is automatically controlled by the ECU and keeps oil circulating through the turbocharger until it has cooled sufficiently.

Gearbox

- 6-speed Alfa TCT dual dry clutch transmission
- New gear change management software
- New Launch Control for standing starts

Power alone could never deliver the superb performance of the Alfa Romeo 4C. An advanced transmission system is needed to control it. The 4C is equipped with an Alfa TCT 6-speed gearbox with dual dry clutch, a solution that combines the instant power of a sequential shift with all the convenience of an automatic.

A true point of reference of the category due to its low weight and extreme speed of actuation, the gears can be changed in sequential mode using the shift paddles located behind the steering wheel. In detail, the transmission works like two gearboxes in parallel, each with its own clutch. The next gear is selected while the previous gear is still engaged, eliminating all discontinuity in power transmission.

The Alfa TCT gearbox has been optimised for the Alfa Romeo supercar. The 4C's special clutch features all-new control software that ensures the fastest possible gear shifts under all conditions. Gearshifts are more aggressive in the sporting performance modes, and drivers can clearly feel the new gear engaging, as on a racing car. On bends, on the other hand, gearshifts are completed in the smoothest way possible to avoid reducing stability.

The Alfa Romeo 4C is also fitted with Launch Control for easy high performance standing starts. Launch Control is activated by pressing the brake pedal while pushing the accelerator pedal all the way down and squeezing the paddle on the left of the steering wheel. As soon as you release the brake, the system automatically controls the gearbox, traction and power to maximise acceleration.

Performance

- From 0 to 100km/h in just 4.5 seconds flat and 258km/h top speed
- Deceleration peaks in the range of 1.2 g and lateral acceleration peaks over 1.1 g
- New Alfa DNA selector with 'Race' mode

The Alfa Romeo 4C offers even the most expert driver extraordinary performance and sensations: from 0 to 100km/h in just 4.5 seconds flat, 258km/h of top speed, deceleration peaks in the range of 1.2 g and lateral acceleration peaks over 1.1 g. All this is also achieved with a balanced weight distribution, with 40% on the front axle and 60% on the rear.

Like all the latest-generation Alfa Romeos, the 4C as well is equipped with the DNA selector. This device lets the driver change the car's temperament to adapt it to the conditions it is subjected to at the moment.

In addition to the three settings available up until today - Dynamic, Natural and All Weather - the device built for the Alfa Romeo supercar has a fourth mode: 'Race', designed to enhance the driving experience on a track even further.

Race is the most extreme performance mode, and is engaged by moving the mode selector to 'Dynamic' position and holding it there for 5 seconds. Alfa Race mode puts you in total control of your car under race conditions. By minimising the interventions of electronic systems, it leaves you, the driver, in complete control. In this situation, ESC stability control remains inactive and only intervenes to ensure stability under harsh braking. ASR does not intervene either on the acceleration or braking, leaving you to control traction through the accelerator pedal alone. Alfa's Q2 electronic differential control system, on the other hand, remains active, as it is essential to permitting fast exits from bends.

Mechanics

- Sports suspension with superimposed wishbones and advanced MacPherson
- Ventilated disc braking system: from 100 to 0 km/h in just 36 metres
- Different diameter tyres: 17”-18” or 18”-19”
- Steering ratio: 90% of bends without taking your hands off the steering wheel

In addition to its absolute performance, the handling of the Alfa Romeo 4C makes it one of a kind. You can fully enjoy the car in all situations, and not only during extreme use on the track, thanks to its feel and ease of driving at top levels. Sport suspension, self-ventilated brake discs, different diameter tyres and direct steering: an advanced ride control system able to keep weight down to a minimum has been designed for the 4C.

Sports suspension

The suspension adopts race-derived technical solutions to optimise performance and deliver unrivalled driving pleasure. A superimposed wishbone system is used on the front of the Alfa Romeo 4C. The wishbones are secured directly on the monocoque and comprise a coaxial spring-shock absorber assembly, tubular control arms and anti-roll bar - all lightweight and efficient.

An Advanced MacPherson geometry has been adopted on the rear to ensure superb road holding and driving fun, even in the most extreme manoeuvres. More specifically, hysteresis of the suspension has been improved with the side-load spring and the support plate of the shock absorber spring at the same time forming the upper constraint of the strut. In this way both height from ground and weight have been reduced, all to the benefit of grip and precision, even at high speeds.

Braking system

The braking system of the Alfa Romeo 4C excels in terms of effectiveness and reliability, even in the most extreme driving conditions. The car can be braked from 100 to 0 km/h in just 36 metres. Merit for this goes to the hybrid self-ventilating, perforated discs complete with Brembo caliper on the front with aluminium bell and cast iron ring gear. This technology guarantees up to 2kg of reduced weight per disc and improved braking. Moreover, the sophisticated brushed surface finish technology increases grip and feel of the pedal, while the innovative release system between disc and bell provides more comfortable and safer braking. Special steel radial pins handle the difference in thermal expansion between cast iron and aluminium and accurately transmit the braking motion.

Different diameter tyres

The search for the greatest possible grip also led to the selection of different diameter tyres, 17"-18" or 18"-19", larger on the back to satisfy the need for greater grip on the axle where the traction works.

Steering

As it is entirely mechanical, therefore without power steering, steering with plasticised links contributes to limiting the total weight of the car and ensures a direct driving feeling for the driver. The steering ratio (16.2) is also such as to allow 90% of bends to be taken without ever taking your hands off the steering wheel.

Design

- A design previewed with the iconic 1967 Alfa Romeo 33 Stradale and now perfected with the 4C
- Balance: ultimate aerodynamic efficiency and elegant proportions
- Strength: muscle and sculpturesque shapes in rear volume and side
- Essentiality: functional interiors for total involvement in the driving experience

Its dimensions make this car truly unique among its competitors: it is just under four metres long, 186cm wide, 118cm high and with a wheelbase of less than 2.4 metres. These dimensions serve both to emphasise the car’s 'supercar proportions' and to accentuate its agility.

Designed by Alfa Romeo Centro Stile, the development of the 4C’s exterior was characterised from the start by the need to enhance the style of the car and the technical characteristics both from a dynamic and aerodynamic point of view. For this reason, all the style solutions adopted have been optimised in accordance with the ultimate goal of the car: performance.

To meet this end, the surfaces were treated as a sculpture and engineers worked side-by-side with the designers to carve all the innovative aerodynamic solutions out of it. The result of this teamwork led to a car that conveys pure sports style through a union of technology and beauty, which is an essential requisite for any Alfa Romeo sports car, where form is always first and foremost function. Besides, every structural element has been conceived for maximum dynamic efficiency, and to help create the downforce needed to ensure maximum grip under fast cornering.

Tradition and future

The Alfa Romeo 4C immediately brings to mind some of the traditional iconic models which have left a significant mark in the history of the Brand. Above all others, in terms of dimensional and layout similarities, one stands out in particular: the 33 Stradale of 1967, a car that combined extreme mechanical and functional requirements with an essential style which “clothed” the engine and chassis appropriately with unmistakable Alfa Romeo treatments.

The Alfa Romeo 4C has followed suit, and thus completes a journey which was embarked upon with the 8C Competizione, emphasising some particular concepts of the brand, such as compact size, dynamism and agility. The same search for the bare essentials has been applied to building one of the world's lightest-weight cars, the Alfa Romeo 4C. A downright search for the ideal weight led to the formula to combine 'lightness and efficiency' while exploring new solutions and materials, not to mention meticulous development work involving highly advanced technologies, in many cases coming from the excellence of Formula 1 or the aviation sector.

The combination of 'Lightness & Efficiency' was the concept behind the design of some unforgettable Alfa Romeos of the past, such as the unforgotten star at Le Mans, the 8C 2900 B Touring of 1938 with full aluminium body, or the 1900 C52 "Disco Volante" of 1952 with a top speed of 230km/h and weighing just 760 kg.

The captivating 4C is also the vehicle with which Alfa Romeo expresses its interpretation of 'Technology' - just like the 2010 Giulietta, the first car in the world to develop and adopt the TCT – and of 'Dynamism', a value that immediately brings to mind the 8C Competizione of 2007, the fastest Alfa Romeo road car in history and produced in a limited series of 500 units.

Today these values - Technology and Dynamism, Lightness & Efficiency, Italian Style - take shape in the new Alfa Romeo 4C, an uncompromising though accessible sports car, a technological and sensual supercar that offers precision, agility and great performance. In short, it is a car to drive and enjoy both on the road and on the track.

Interior

The interior of the Alfa Romeo 4C is the result of an in-depth study of anthropometric and ergonomic parameters that established a relationship between the sports layout of the car and features that form a 'continuity' with the design of the body. It is a design concept in which the various elements - dashboard, instruments and seats - follow specific driver and passenger usability and comfort criteria.

The cockpit, which powerfully suggests the world of motorcycle racing and race cars, brings together all information necessary to drive and control the car. All readings are visible on the instrument panel, comprising an original digital display, containing all the control functions for the Alfa Romeo supercar.

With regard to the selection of materials, the Alfa Romeo 4C project is a perfect synthesis of the brand's values. It is a combination of advanced technology and dynamism, sportiness and performance, and tradition and modernity. The lines, shapes, materials and colours emphasise this desire to take centre stage: the pride of being an Alfa Romeo. The material is not intended as a covering, but as an enhancement of the external and internal skin, volumes and, where possible, as a visible structure. The material is the very essence of the structure.

The seats, with a composite structure, ensure the perfect feeling of the road that the driver gets, thanks to the possibility of finding an ideal driving position while guaranteeing comfort even in everyday use. In detail, the seat upholstery ranges from technical fabrics with high performance and robust nylon yarns to natural leathers in the colours of Alfa Romeo tradition: red for sportiness and "dinamica", a polyester microfibre with a soft and adhesive touch to keep grip on the seat, as well as on the road. Also the internal ‘asphalt type’, 3D and ‘rough’ grains call the real subject matter to mind: contact with the road. Finally, the pedal unit and footboards for driver and passenger are made of aluminium, in this way highlighting its sports character down to the smallest detail.

Architecture

- Two bucket seats, rear-wheel drive with a mid/rear mounted transverse engine
- Weight distribution: 40% on the front axle and 60% on the rear

Rear wheel drive and a centrally mounted engine: the architecture of the Alfa Romeo 4C is typical of competition cars in which perfect weight distribution is the primary objective.

The Alfa Romeo 4C has rear-wheel drive to make full use of the dynamic advantages afforded by this configuration. Rear-wheel drive gives better grip under acceleration, when engine power throws weight towards the rear of the car. It also lets you enter curves at higher speeds, delivering a far more intense driving experience.

The aluminium engine is centrally mounted. This significantly reduces weight as it eliminates the need for a propeller shaft and optimises weight distribution - 40% on the front axle and 60% on the rear - by concentrating mass near the centre for sharper handling.

Aerodynamics

Having defined the 4C's architecture, Alfa Romeo engineers started to search for the most suitable materials for this solution. Aluminium, steel, SMC and carbon fibre were chosen for their ability to combine lightness and efficiency.

After choosing the materials, the designers worked on all external and internal flows of the car, paying close attention to every detail necessary to decrease the creation of vortices and at the same time to ensure cooling of the engine compartment. On top of this special design of the rear and lower underbody air intakes and over 200,000 hours of optimisation in the wind tunnel and on the track were added. The final result is a Cx equal to 0.34, the best value among cars with negative lift.

The Alfa Romeo 4C achieves maximum aerodynamic efficiency levels, guaranteeing a negative Cz which, as in racing cars, contributes towards achieving increased stability at higher speeds thanks to the negative lift.

Materials

- The most advanced mixture of hi-tech materials having characteristics of exceptional stiffness and resistance combined with a very low specific weight
- The carbon fibre monocoque weighs only 65kg

Carbon fibre

The secret of the lightness and dynamic behaviour of the Alfa Romeo 4C lies in the 10% of carbon fibre used, which represents as much as 25% on the entire volume of the 4C. Today carbon fibre is the material that guarantees the best efficiency between weight and stiffness. This is why it was chosen for the monocoque with a structural function that constitutes the central self-supporting cell of the chassis. It is a solution adopted by most advanced supercars.

The carbon fibre monocoque is a single piece, and weighs just 65kg.

Aluminium

The use of materials with high torsional stiffness but low weight distinguishes all the structural components of the Alfa Romeo 4C. As is demonstrated by the use of aluminium for the roof reinforcement cage and front and rear beams.

Both the design of the components and the manufacturing process were altered in this case as well, in order to reduce its weight and increase its rigidity.

Specifically, the designers created a new section for the struts that replaces the traditional rectangular section. In this way the beams are lighter and at the same time safer. They are also produced using the innovative 'Cobapress' process. This process combines the advantages of casting with those of press forging, which further compresses aluminium alloy to close any remaining porosity. All of this lightens the component to the benefit of its mechanical properties.

Aluminium is also used in the hybrid type of front brake discs, with aluminium bell and cast iron ring gear. This is guarantees up to 2kg of reduced weight per disc and improved braking.

Moreover, the sophisticated brushed surface finish technology increases grip and feel of the pedal, while the innovative release system between disc and bell provides more comfortable and safer braking.

SMC (Sheet Moulding Compound)

SMC (Sheet Moulding Compound) is used for the bodywork. It is a low-density, high-resistance composite which offers a 20% weight reduction compared to the traditional steel shell.

The Alfa Romeo 4C is the first standard production vehicle with such a high percentage of low-density SMC: at just 1.5g/cm³ it is significantly lighter than steel (~7.8 g/cm³) and aluminium (~2.7 g/cm³), as well as being more malleable.

This feature granted freedom in terms of style and design necessary to create a stunning car recognisable at first glance. It is also a stable material which, in contrast to aluminium, does not deform in minor collisions, and is extremely resistant to chemical and atmospheric agents. It also disperses sound efficiently, increasing acoustic comfort.

Low-density SMC also ensures significant functional integration between parts, leading to a reduction in components, operations and assembly time, thus lowering production costs.

PUR-RIM (injected polyurethane)

PUR-RIM (injected polyurethane) was also chosen for the bumpers and mudguards for the reasons mentioned. It is a lightweight material (-20% compared to steel) suitable for creating even highly complex design elements like a 4C mud guard.

Windows

Not a single material, including glass, was neglected in order to get the lowest possible weight. In this specific case, weight was lightened by actually "slimming down" the silhouette. All the windows are on average 10% thinner than those normally used on a car so that the average weight is reduced by 15%. The windscreen is just 4mm. This is an outstanding result, especially when we consider its particularly aerodynamic shape that is difficult to achieve with such a thin sheet of glass.

ENDS