

## The new Jaguar XJ: cat of prey in aluminium coat

The British luxury carmaker Jaguar has traditionally used aluminium during its 75 year history. The marque's flagship is the new Jaguar XJ, which has been in the showrooms since the middle of June and is being marketed by the manufacturer as the ultimate sporting luxury car, with prices starting at 76,000 euros. Thanks to aluminium, the bodyshell of the XJ is the lightest in its class. Using a lightweight body and conventional monocoque construction, the Jaguar engineers have developed a car that is up to 200 kg lighter than its predecessors.

The whole body of the new XJ – including the monocoque chassis and all external body sheet – is made from a combination of rolled, cast and extruded aluminium components. As with the previous model, the structural joints are riveted together and bonded using processes proven and tested in the aerospace industry.

The body shell of the new XJ has less individual components; as a result, the number of joints and complex assemblies is also smaller, whereas there is an increase in torsional stiffness. The production process has also been simplified – the new XJ requires 12 per cent less rivets and 25 per cent less adhesive.

New high-strength aluminium alloys are used at important locations in the structure in order to increase the stiffness and durability whilst using less material. A newly patented process in which aluminium sheet is made from several layers of different alloys is regarded as being particularly advanced. The new 'Fusion' technology from Novelis allows wall thicknesses to be reduced by up to 10 per cent whilst offering good formability and superior corrosion resistance. The sandwich-like aluminium sheet is used in the new XJ for the wings, roof section and boot lid.

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