
Wheels

Alloy wheels from Audi are elegant, high-quality and lightweight. After all, Audi has made lightweight design a top priority in wheel development, too. Various methods are available to achieve this. Many designs today are being produced using flow-forming technology. This is a process in which the rim well of a cast wheel is rolled out over a cylinder at high pressure and a temperature of over 300 degrees Celsius (572 degrees Fahrenheit). The system shapes the wheel blank in a single step, in a manner similar to a potter's wheel. In so doing, it compresses the material, allowing a thinner wall thickness. The wheel becomes lighter and at the same time sturdier. Flow-forming wheels are several hundred grams lighter than conventional wheels, depending on their dimensions.

Even more significant weight savings are achieved with forged wheels. Owing to the high-strength material used, this technology enables a further reduction in wall thickness – an advantage that plays out particularly in the unsprung and rotating masses, of which the wheels are a part.

Another innovation is a new hybrid wheel technology in which the rim well and wheel spokes are made individually and then welded together using a friction-stir welding process. This helps to keep the weight of even large wheels below 10 kilograms (22.05 lb) – an advantage of more than 2 kilograms (4.41 lb). Cladding technology, in which elegant design claddings made of a lightweight, metal-coated or painted polymer material are applied to ultra-light base wheels, is another attractive technology, since it allows lightweight construction to be combined with aerodynamically optimized wheel designs and a wide range of surface styling options. For this technology, Audi plans in the near future to use a novel bright-chrome surface – the so-called iridium look, outstanding due to its subtle matt quality.

The premium quality is reflected equally in the quality of the surface finishes, where Audi has set the bar particularly high. The brand's aluminum wheels have sophisticated surface finishes, irrespective of the manufacturing process. Likewise, a surface coating system providing excellent corrosion protection – primer, base coat and clear coat – is standard across the board.

If requested by the customer, Audi also supplies custom wheels – in standard silver and high gloss, or with machine-polished finishes and contrasting paint for a two-color effect. Various special finishes are also available, particularly for the US market.



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