
Audi R8 Spyder V10 – Audi Space Frame

According to DIN unladen weight without driver, the new Audi R8 Spyder* tips the scales at just 1,720 kilograms (3,792.0 lb); dry weight is a mere 1,612 kilograms (3,553.9 lb). The key to this outstanding figure is the new multimaterial Audi Space Frame (ASF). It combines aluminum components with components made of structurally integrated carbon fiber-reinforced polymer (CFRP). The ASF in the new Audi R8 Spyder has a total weight of just 208 kilograms (458.6 lb).

Comprising 79.6 percent of the ASF, the aluminum components form a lattice that Audi's engineers have used to incorporate specific reinforcements especially into the sills, A-posts and windshield frame compared with the R8 Coupé*. The front and rear ends of the new Audi R8 Spyder are assembled primarily from cast aluminum nodes and extruded sections. The body's outer skin, for example the front hatch, doors and side elements, is also made primarily of aluminum. The center tunnel, bulkhead, B-pillars and cover of the convertible top compartments are made of CFRP. They form the ultra-strong, nearly torsion-free backbone of the occupant cell. Innovative manufacturing methods lower the weight of individual components by up to ten percent.

Compared to the previous model, the ASF of the new Audi R8 Spyder has become significantly better in all criteria. With nearly 50 percent higher torsional rigidity, it is the foundation for the precise handling, high crash safety and acoustically pleasing vibration behavior. The new multimaterial ASF attains a top figure in the sports car segment for its lightweight index – a measure of the relationship between weight, size and rigidity.

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