

2011: Intelligent aluminium-steel construction

-

In the 991 series of the 911, which was introduced in 2011, Porsche further perfected the lightweight design for sports cars. This achieved a number of goals: improving vehicle dynamics while reducing fuel consumption, as well as enhancing safety and raising levels of comfort in comparison with earlier vehicles. The engineers chose a concept that puts the right material in the right place, using the right construction method. For the first time, this has meant that the current vehicle generation is lighter than its direct predecessor – by approximately 40 kilogrammes. And this is despite the additional weight originally expected due to the longer wheelbase, the more stringent safety requirements and the enhancements to the overall package.

The largest proportion of the weight saved (around 80 kilogrammes) was due to the new body-in-white with mixed aluminium-steel construction. With the exception of local reinforcement parts, the front body section and large parts of the floor and rear section are made of aluminium. This is also true of the lids, wings and the door structure. The coupé is 44 per cent aluminium and the cabriolet 43 per cent. A significantly larger proportion of the steel parts are made of super high-strength and ultra high-strength materials. The hot forged, press hardened steels provide an extremely high degree of occupant protection.