

# The second cornerstone: Chassis mechanics

The second cornerstone is the chassis mechanics. The first step here is to establish the dimensions of the wheels and tyres. Porsche uses mixed tyres in virtually all its model lines – the rear tyres have a wider tread than the front tyres. In the super sportscar segment, the rear axle wheels also have a larger diameter. Porsche also has very high requirements when it comes to tyre properties. This includes both tyre performance, i.e. longitudinal and lateral power transmission, along with efficiency and comfort. For instance, over the past ten years, the company has succeeded in reducing roll resistance as a factor in fuel consumption by around 20 per cent, while still increasing longitudinal and lateral adhesion.

The axle concepts with their continuously enhanced kinematic properties ensure correct positioning of the wheels in relation to the road in all driving conditions, thereby ensuring optimum power transmission from the tyres. On many sportscars, rebound buffer springs on all four wheel suspensions reduce roll and pitch movements when the car is driven in a particularly sporty manner, while at the same time improving rebound handling. Porsche offers lowering on virtually all models. This technique further reduces the vehicle centre of gravity, thereby enhancing lateral dynamics. All Porsche models are equipped with fixed-calliper brakes on the front axle, which deliver ultimate braking performance, excellent stability and a good braking sensation. For particularly high braking performance requirements, all model lines are available with the option of the Porsche Ceramic Composite Brake (PCCB) with its lightweight and exceptionally stable ceramic brake discs.