Torsional stiffness

Static torsional stiffness, the resistance to torsion in the longitudinal direction, is a critical factor in determining a body’s strength and a primary consideration for each new design from Audi. In the A8, for example, torsional stiffness increased by approximately 25 percent compared with the previous model. In the TT Coupé the increase was 50 percent, and in the TT Roadster an outstanding 100 percent.

Dynamic torsional stiffness, which involves pulses coming from the road, has a significant effect on ride comfort. Audi is continually driving progress in this area, too. The A8 L, for instance, demonstrates a 15 percent improvement.

So-called torsion rings – stiffening elements in the structure – play a central role in both of these criteria. In the Audi A4, for example, they are located behind the rear seats and around the trunk aperture. The front bulkhead, a cross-member in the floor and the roof support these rings as shear panels.

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