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## Aeroacoustics

Low wind noise is an important comfort factor, particularly on the highway. At speeds of 120 km/h (74.56 mph), the whooshing of the wind is the loudest source of noise in the interior of many cars.

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In the A8, Audi engineers employed numerous detailed solutions to lower the wind-noise level. A water-catching strip with a rounded leading edge, a complex door concept with three sealing surfaces, and an acoustically sophisticated sunroof all work together to reduce wind noise. The wind deflector extends in two stages as a factor of driving speed to suppress whooshing and booming noises.

A key portion of the development work took place in Audi's aeroacoustics wind tunnel. It is a high-tech workplace. Its rotors measure five meters (16.40 ft) in diameter and accelerate the wind to speeds of up to 300 km/h (186.41 mph). Details such as the shape of the outside mirror were also developed here: a groove on the top of the housing and a deflector edge on the bottom ensure good airflow around the mirror and repel water drops so that the mirror stays largely clean when the vehicle is driven in the rain.

The glazing on many Audi models significantly reduces interior noise. On the A8 and A7 Sportback, for example, a windshield with a special noise-insulation interlayer is standard. As an option, Audi also offers side windows made of insulating/acoustic glass. On the five-door coupe, the doors with their frameless windows have a complex sealing concept.

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