Condensation on lamps

Data sheet	
Model	Vehicle lamps with a plastic cover lens
Symptoms	Condensation on lamps

Important safety information

Condensation on vehicle headlamps with a plastic cover lens

Many car owners are familiar with the phenomenon of condensation building up in the lamps: after driving in the rain, using a car wash or following cold nights, a fine film of mist often forms on the inside of the lamp cover lens. In most cases, this is a perfectly normal physical phenomenon, but because it impairs the driver’s vision, it is perceived as a fault. Once the lamps are switched on, the air inside the housing heats up. This expands and escapes through special ventilation openings. Depending on the lamp model, a variety of systems may be used:

- Passive ventilation:

Small openings or slits in the housing allow air to circulate.

- Rubber valves / diaphragm valves

These allow air to pass through, but prevent water and dirt from getting in.

- Actively ventilated systems

In modern LED or laser light lamps, additional electric fans inside the lamp housing ensure targeted, temperature-controlled air circulation.

Once the lamps have been switched off, the air inside cools down. This can allow damp outside air to enter, which then condenses on the cooler inner surface of the cover, resulting in what is known

as condensation. From a technical point of view, this process is harmless. The reflectors and light sources are designed in such a way that they do not become impaired by temporary moisture. As a rule, the condensation clears of its own accord after a short drive with the lights on as a result of increasing warmth being generated. A more detailed inspection of the lamp is only necessary if:

- Condensation persists over a longer period of time
- Visible water build-up occurs in the lamp

In such cases, the lamp should be checked for the following possible causes:

- Leaky or poorly fitting cover caps
- Blocked or faulty ventilation systems
- Damage to the cover lens
- Faulty electrical plug connections on the lamp

IMPORTANT

Provided there is no persistent moisture or water build-up and no faults can be detected, the lamp is technically sound and can continue to be used without restriction. This also applies when it comes to your vehicle’s general inspection.





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