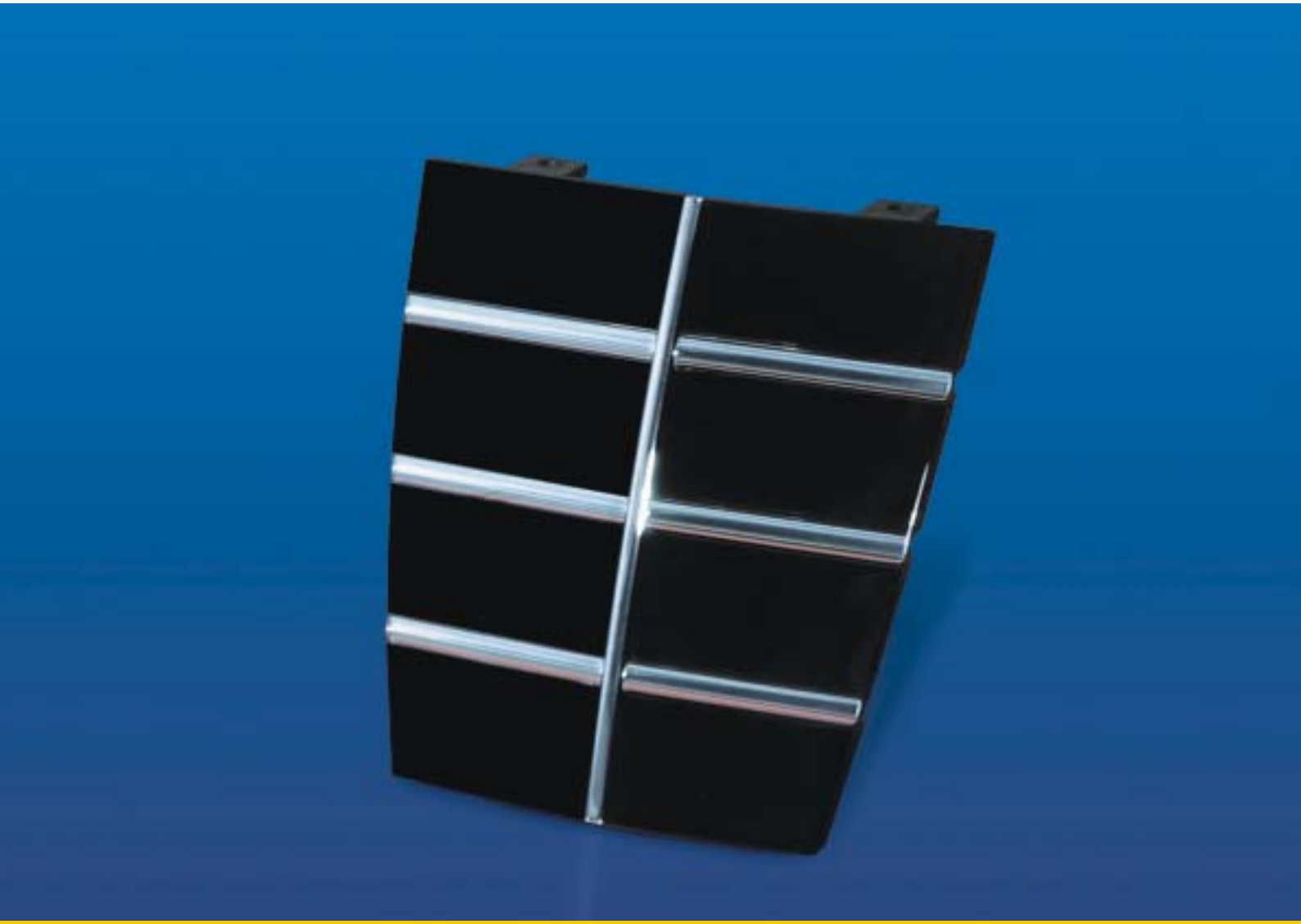
Technical Information

Radom – Radar-Transparent Cover



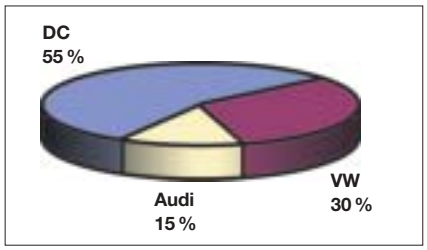
HELLA®

Ideas today for the cars of tomorrow

Hella Innenleuchten-Systeme GmbH

With Hella Innenleuchten-Systeme GmbH (HIS), Hella has since 1998 developed the competence center for interior lighting within the globally operating Hella Group in order to meet the growing importance of vehicle interior lighting. Characteristics and objectives include:

- Top-rate development partner for all renowned automobile manufacturers and their suppliers
- Utilization of state-of-the-art technologies
- Outstanding know-how
- Exemplary customer service



Radom sales distribution

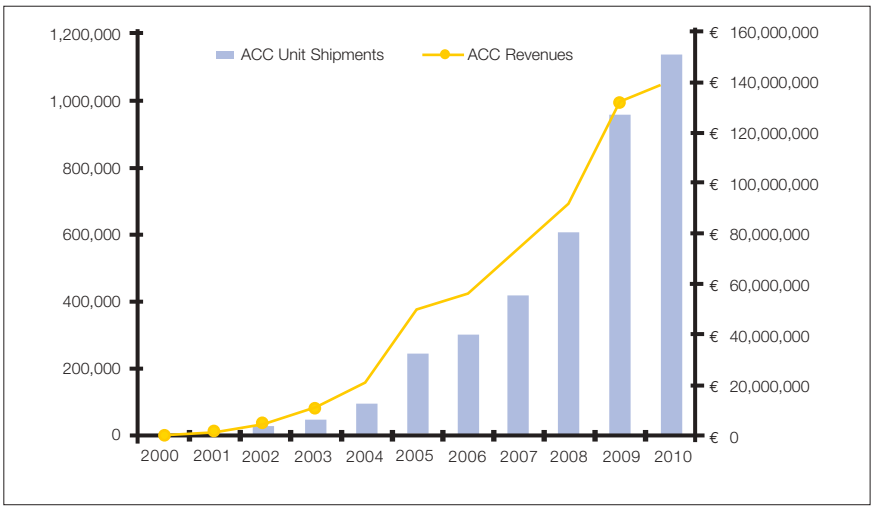
Thanks to the competence built up in the interior lighting product division in the manufacture of highly decorative surfaces, HIS was likewise in 1998 the first company to start developing and producing Radoms. The term “Radom” stands for a radar-transparent cover with a special design and functional requirements. Radoms serve to protect and cover the ACC sensor housed in the front section.

In the meantime, the manufacturing of Radoms has been established as an independent product division within Hella, and, as the only supplier worldwide, HIS manufactures Radoms in series.

Importance of Radar Systems

There is no doubt that electronics and information technologies are becoming an increasingly valuable ally to drivers. ACC (Adaptive Cruise Control = automatic distance-regulation systems) systems are increasingly being developed and deployed for new vehicle generations. While these ACC systems are currently considered comfort and convenience systems, autonomous distance measurement between motor vehicles in traffic is the key to a series of practical safety devices for the cars of the future.

According to a 2002 study, the market penetration of ACC systems will continue to rise sharply until 2010.

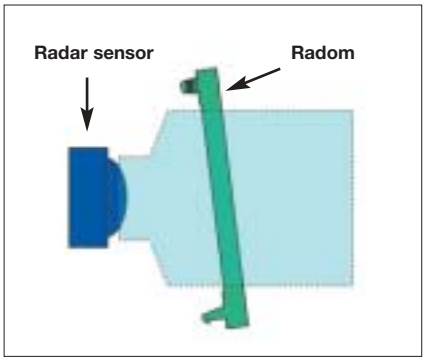


Technology

Distance-regulation cruise control systems utilize radar technology in order to measure continuously the distance to the vehicle in front. The electronics, based on 76/77-GHz and 24-GHz multimode systems, constantly keep the car at the correct distance by automatically accelerating and braking.

In vehicles, the front, therefore the “face”, is a particularly styling-sensitive section. Here, the transmitting/receiving heads are integrated behind an additional Radom in the front section. In terms of styling, the Radom has to be incorporated into the “vehicle face” as harmoniously as possible, without sacrificing radar-transparency, so that the functionality of the overall system is not adversely affected. Such a challenge demands an especially high standard when developing and manufacturing these products:

- Extreme demands on highly decorative surfaces
- Interaction of different coating systems (sometimes up to eight coats)
- Non-visible jointing connections
- The smallest tolerance zones for the component parts and the overall system
- Material selection and coating thickness adjustment with respect to their radar-transparency

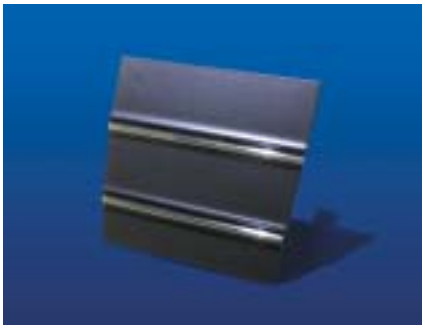


ACC Sensor – Radom System Structure

Structure of Radom (Coating not shown)

In all cases, individual adaptation of the Radom design and its structural mounting on ACC systems (positioned behind) from the most diverse manufacturers is necessary.

VW Radom



Audi Radom

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