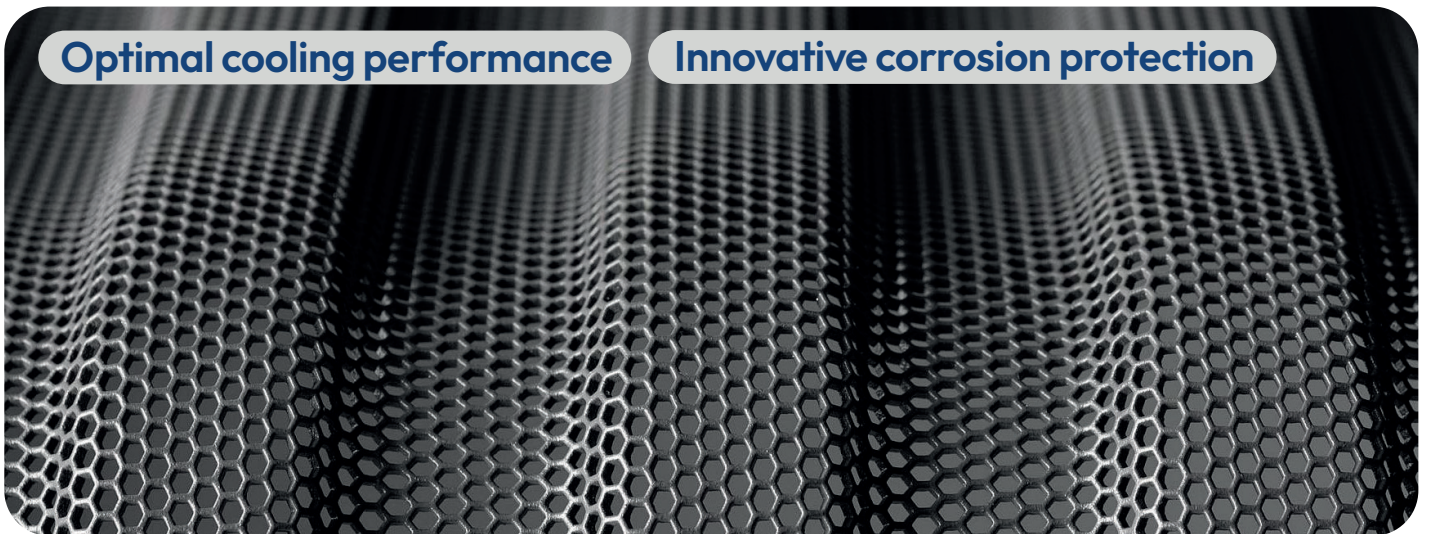


Graepel DuraVent: The high performance ventilation grille

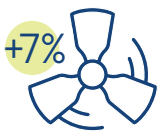
Optimal cooling performance

Innovative corrosion protection



Perforated metal components used as **ventilation grilles** and **engine bonnets on tractors, construction machinery, trucks** and **buses** must be able to withstand extreme stresses.

Graepel DuraVent offers the following proven effects:



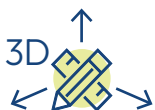
Optimal air flow for maximum engine performance

The powerful engines are supplied with cooling air through the small holes of the perforated sheet. **Graepel DuraVent offers a significantly higher air flow rate than standard perforated sheets, + 7% more air flow rate is guaranteed.** This enhanced performance is achieved through the optimized geometry that develops during the coating process.



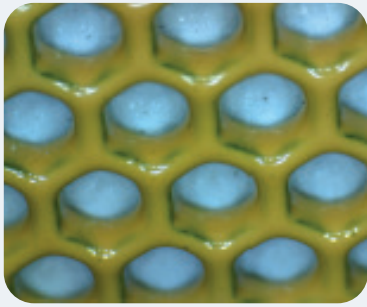
Durable corrosion protection on a premium level

Due to their position, generally at the front of the vehicle, ventilation grilles and engine bonnets are exposed to extreme conditions. To withstand these high stresses over the long-term, corrosion protection with sufficient thickness and perfect edge coverage is indispensable. **Graepel DuraVent delivers premium-grade corrosion protection compliant with DIN ISO 9227. A minimum of 1,000 hours salt spray test resistance is guaranteed.**



Appealing design

Today's vehicles must meet the highest standards in terms of design and aesthetics. This applies in particular to coated engine bonnets, which are deep-drawn into diverse shapes, and right in the field of vision on the front of the vehicle. **Graepel DuraVent enables diverse three-dimensional design variations.**



The challenge of edge thinning:

The edge thinning effect makes coating perforated metal components more difficult. The curved surface in the edge area causes a surface tension that displaces the coating towards the flat surfaces.

This reduces the layer thickness along the edge. Standards for solid sheets cannot be applied to perforated sheets – Graepel has therefore developed a symbiotic process of toolmaking, perforation, cathodic dip and powder coating.

Graepel DuraVent:

Step-by-step to maximum airflow and component lifetimes:

1.

Toolmaking

Graepel DuraVent tools undergo a specialized process, where material type, thickness, and perforation parameters are considered for a precisely engineered tool for optimal results. The Graepel Toolmaking team brings decades of expertise that has been perfected through generations.

2.

Perforation

During the punching process, metal breakout in the final phase typically creates burrs along the edges. Through the specialized tooling technology, Graepel minimizes this burr formation significantly, resulting in cleaner perforations, allowing optimal edge coverage during the coating process.

3.

Forming

Due to the perforated structure, simulations of the desired shapes are not possible. For Graepel DuraVent thousands of targeted tests on topics and parameters such as optimal adaptation of base material to the ideal drawing radius are available point by point.

4.

Cathodic dip coating

While customer standards specify coating thicknesses of 15 to 20 μm , conventional perforated sheets typically achieve only partial coverage due to edge thinning. Graepel DuraVent's specialized process ensures full edge coverage that consistently meets these standards.

5.

Powder coating

The final powder application is the result of years of proven experience. Graepel DuraVent employs a unique powder composition, exclusively developed and only available for Graepel DuraVent, to maximize the coating thickness on burr.

Talk to us:

**Early collaboration
will lead to better results.**

Jan Fehlinger

Phone: +49 5432 85-189
Mobile: +49 160 96308089
Mail: fehlinger@graepel.de

Armelle Renard

Phone: +49 7021 8048-121
Mobile: +49 172 7180485
Mail: armelle.renard@graepel.eu

