

Products Sep 1, 2014

## Made Perfect 2 – the painting of the Macan

The paint shop at the Porsche plant in Leipzig is one of the most modern in the world. A sophisticated system delivers immaculate and customised colours.



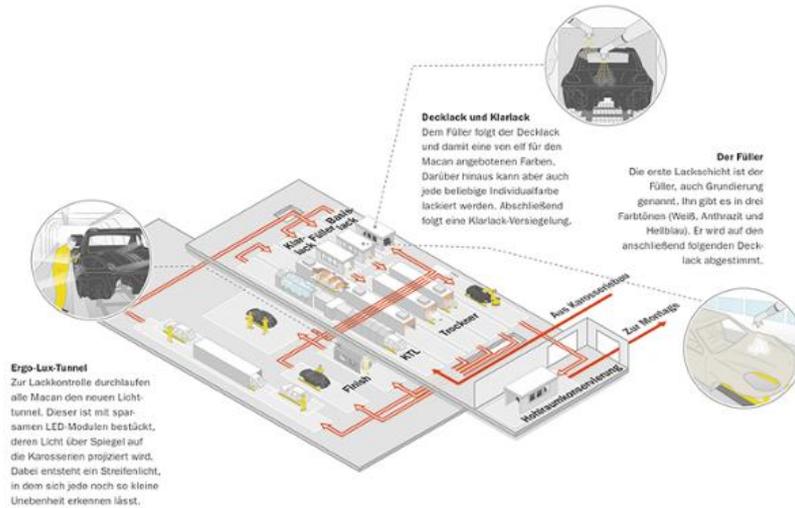
Like every Porsche, the Macan epitomizes the optimal interaction of man and machine. The intelligently controlled production process involves multiple locations and many suppliers, and culminates in state-of-the-art production at the Leipzig plant. In our series "Made perfect – the journey of the Macan" we accompany the entire production process of the compact SUV. The second part takes a look behind the scenes of the paint shop.

The Leipzig plant combines state-of-the-art mass production with the exclusivity of a small workshop, where customization is possible. "We can, for example, paint any exterior color that the customer wants," says Roland Töpfer, head of the paint shop, adding, "That's what we have 'Sofa' for" – the special color system known by its German acronym. The system makes it possible to provide paint volumes for a single car, and even to change the color for each coat of paint.

But first, a quick bath is on the agenda. In preparation for the cathodic electrodeposition (CED) bath, the body is cleaned and de-greased. To reach all hollow spaces, the Macan rotates 360 degrees in the bath. The tailgate, doors – and the clamshell hood – are specially fixed. In the subsequent electrochemical CED process, 380 volts are applied between the bath and the body. This ensures an even coating. The Macan is dipped a total of nine times. Then it goes to dry.

The Macan receives its custom exterior

Once the welding seams and flanges – the connection points – are sealed and the underbody protection applied, things get colorful. Primer, base coat, clear lacquer: the order in which the Macan receives its custom exterior. While the body heads into the clear lacquer booth, the painting robots, clad in a white protective film, move into position. Their graceful motions in doing so recall the image of a waiter preparing to carry a tray with his open hand.



**For infographics with better resolution, see left column (downloads)**

With a fine spray, the painting process begins, inside and out. Additional gripper robots chivalrously open doors and open the hood. The robots work elegantly and efficiently, so that 85 percent of the paint actually reaches the body surface, reducing overspray to an absolute minimum. Using a dry paint droplet removal system, the excess paint particles in the air are bonded to a limestone-powder and disposed of. There is no waste. The pulverized limestone is completely recycled. "It goes to a cement-maker. Cement is fired to 2,000 degrees Celsius, so nothing is left of the paint," says Töpfer.

**The Porsche plant is an environmentally friendly plant**

The Porsche plant is an environmentally friendly plant. The photovoltaic facility on the roof of the body construction area, for example, generates up to 800,000 kilowatt-hours of solar energy annually – roughly the annual energy consumption of over 150 average four-person households. The paint shop operates at up to 80 percent CO2-neutral. The required heat is supplied by a biomass power plant located right next to the plant. Sustainability as an expression of social responsibility, as board member Blume puts it. The Ergo-Lux tunnel, a light tube outfitted with economical LED modules, is an equally good fit with the concept. The highly uniform reflected light is optimal for checking the paint job: two employees carefully inspect a hood and run their hands – without gloves – across its surface. This is the only way to detect the uneven spots that they then polish out. Now the Macan is ready for assembly. In the next part the Porsche Newsroom accompanies the Macan at the assembly.

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Consumption data

Macan: Combined fuel consumption: 9.2 – 6.1 l/100 km; CO2 emission: 216 – 159 g/km

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### **Media Package**

<https://newsroom.porsche.com/media-package/made-perfect-2-the-painting-of-the-macan>

### **Downloads**

Infographics Leipzig plant – body construction area

Infographics Leipzig plant – paint shop

Infographics Leipzig plant – assembly

### **Videos**

<https://www.youtube.com/embed/CGI7Hpph-48>

<https://player.vimeo.com/video/104373191>