

Borbet: Wheel design with laser

As one of the leading global manufacturers of lightweight metal wheels, Borbet GmbH is constantly upgrading their production technology. In the search for methods of producing high-precision surface designs on aluminium wheels at a level of quality that lives up to the “Made in Germany” standard, Borbet has tried out multiple techniques. Ultimately the “BARRACUDA laser processing system”, produced by ACSYS Lasertechnik, was chosen, which can be adapted to meet specific customer needs. Commissioned into operation at the end of 2012, today the system constitutes Borbet’s successful production technology for the patented “ExaPeel” laser paint removal system.

To be able to customise lightweight metal wheel rims, various techniques initially presented themselves. Initial tests with brush technology turned out to be unproductive, because brushing would have only been possible externally – a solution which would not have conformed to the production planning of this manufacturer of quality products. Pad printing was also tried out, but the method could not achieve the necessary adhesion. “Finally, we conducted tests at various suppliers of industrial laser systems. Our goal was the partial, micro-precise removal of paint that would satisfy the high aesthetic standards of our wheel designs and collections,” explains Peter W. Borbet junior.

Compared to other methods, laser engraving is completely contact-free. The material is melted and vaporised exclusively by means of laser light. The laser allows micro-engraving down to the micrometre range. Fixation of the work piece is not necessary. With an integrated rotary table it is possible to process the complete rim as it rotates. It is possible to produce personalised inscriptions, logos, ornaments and patterns in the styles of various makes of car and target groups.

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