

PRESS RELEASE

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Original remains original

New product protection procedure simply and efficiently equips vehicle license plates with safety features

(Dresden, January 19, 2018) Together with the company Erich Utsch AG scientists of the Fraunhofer-Institut für Werkstoff- und Strahltechnik IWS have developed a process for the protection of license plates for motor vehicles. The development is triggered by the fact that many of the established product protection concepts are either too inflexible or uneconomical. The results will be presented at the 10th Laser Symposium in Dresden as well as at the Intertraffic Amsterdam 2018.

In cooperation with Erich Utsch AG, a research team of Fraunhofer IWS Dresden has developed a process that efficiently and safely transfers product protection features to vehicle license plates. The "Direct Laser Interference Structuring" (DLIP) technology forms the basis. This process divides a coherent laser beam into two or more beams and superimposes them in a controlled manner on the die stamp surface. "We are talking about a so-called periodic modulation of the laser intensity," explains Tim Kunze, head of the team "Surface Functionalization" at Fraunhofer IWS. "The interference effect resulting from the superimposition allows the application of defined structures to surfaces. The applied microstructures provide rainbow effects that we can use as a product protection feature." In a second step, the stamp can be used as a tool in the hot embossing process. It transfers the DLIP product protection feature to the license plate foils for motor vehicles.

DILP process generates product protection features in a fast and cost-efficient manner

The special characteristic of the developed process is that it produces the DLIP product protection feature in a fraction of the time currently required. While established processes for the production of hologram labels often require costly infrastructures such as clean rooms, the product protection features can now be produced under normal conditions. The scientists of Fraunhofer IWS also succeeded in designing the process so flexible that complex surface geometries and product protection features can be generated. Together, these two advantages introduce the newly developed product protection approach as a promising option for simply and efficiently equipping vehicle license plates with safety features.

Head of Corporate Communications

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FRAUNHOFER-INSTITUT FÜR WERKSTOFF- UND STRAHLTECHNIK IWS

“With the DLIP product protection feature, we now have an instrument in our hands that raises the safety standard for vehicle license plates to a new level in a highly flexible and cost-effective way. It makes all previous standards obsolete virtually overnight”, says Bernd Pfundstein, innovation representative in the product management department “License Plate Cutting” of Erich Utsch AG.

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Curbing product piracy

According to a study by the German Engineering Federation (VDMA), almost three out of four companies in Germany are already affected by product piracy. According to the VDMA, patent applications and technological protection measures in particular are among the most popular methods for protecting products against unauthorized copying. Since patent infringements must always be proven separately, technological product protection measures in particular are becoming increasingly important. The new development of the Fraunhofer IWS Dresden aims in this direction.



DLIP-generated exemplary product protection feature

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Applied DLIP product protection feature on a vehicle license plate
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