

Selective paint removing from wheels



SLCR Lasertechnik:

- experience for more than 25 years
- develops, builds and sells sustainable system solutions for surface treatment
 - industrial de-coating,
 - cleaning,
 - pretreatment,
 - activation,
 - marking,
 - material processing
- mobile and stationary systems for manual processing up to customized turnkey solutions

Portfolio:

- **Consulting & Planning**
process qualification, implementation planning
- **Test treatment & Job Shop**
pre-serial parts, qualification programs
- **Automation and System Solutions**
Entirely installed turnkey solutions, complete or partial solutions
- **Service**
Service support up to maintenance contracts

Your challenge

WHEELS - a piece of metal that let many car enthusiasts' hearts beat faster. In order for this happiness to last a long time, a high-quality painting of the wheels is absolutely necessary. On the one hand, the paintwork serves to protect against damage and corrosion, on the other hand the painting is a very important design feature. In addition, a perfect rim design can only be achieved with a flawless finish. Nevertheless, for technical reasons, at each wheel some areas have to be free of paint. These include:

- calottes
- wheel hub
- contact surface of the wheel

To ensure that these areas remain paint-free, the wheels are masked for the painting production step. Till today, balls or plugs are still used in most production plants. A very time-consuming process that also delivers poor quality results.

On the one hand, the products used for masking are always slightly leaky, which leads to paint speckles on the actually unpainted surfaces. On the other hand, in the transition from the painted to the unpainted area, there might occur uncleaned painting edges due to the removal of the masking. In many cases, this leads to rejects or time-consuming reworks. In addition, the plugs or balls have to be costly removed, stripped or cleaned after painting. In addition to that, using these parts for the masking process, is quite costly and expensive.

Meanwhile in the past few years, the team at SLCR Lasertechnik has developed a solution that is industrially tested and manages without the expensive and unclean masking:

Surface - Decoating with lasers of SLCR **lightCLEANER - Rim Line**.

**If you need us,
we'll support you!**



Masking of surfaces – the old fashioned way

The solution

The SLCR **lightCLEANER – Rim Line** impresses with selective, high-precision paint removal on surfaces in defined areas by using laser technology. The SLCR process uses laser ablation to remove residue-free, environmentally friendly and clean painting layers. Due to the precise treatment of the defined areas, there is a clean transition from the coated to the de-coated area, without fraying or paint speckles.

Due to the gentle treatment of the defined surfaces by means of laser radiation, a fully-permanent and precise removal of the paint is achieved even with variations in the paint thickness. The base material will not be damaged even after repeated treatment, because the metallic surface reflects the laser beam.

Due to the simple handling and the technical robustness of the technology, the system can also be easily integrated into existing conveyor lines within production.

Laser de-coating for wheel calottes is used successfully in industry for several years.

Properties (of the shown solution):

- De-coating of up to 600 wheels / h (with five calottes)
- Dimensions of system example are approx. 3m x 8m
- Operating costs of only € 0.02 / wheel

Your advantages:

- Fast, clean, dust-free, wear-free
- Precisely controllable processing
- Ideal transition from the painted to the de-coated area
- No fraying of the paint
- No further pre- or post-treatment necessary
- No impairment of the work environment or the workpiece
- Environmentally and user-friendly
- Quality improvement
- Cost reduction



Wheel during treatment



Wheel hub



Calotte

Principle of treatment

The wheels are fed into the treatment stations by the customer's conveyor system. By means of data exchange and system monitoring, the wheel data is compared and the wheel is precisely positioned in the system for treatment. Different sizes or types of calottes and wheel hubs can be treated in any order. Then the precise paint removal / decoating takes place by using the SLCR laser system technology at the required points. Then the wheel with the process data is fed back to the conveyor system.

Sustainable & economical

With the SLCR **lightCLEANER - Rim Line** you are able to implement a sustainable and economical process that can be seamlessly integrated into an "Industry 4.0" environment.

For questions, further information or test treatments, feel free to contact us.