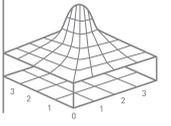


**SLM**  
SOLUTIONS



# Case Report

## KRAIBURG-SLM®-Tire Molds



**Tire mold segments for the  
retreading of truck tires**

3D-Printing at KRAIBURG,  
the specialist for  
retreading material

## COMPANY PROFILE

# KRAIBURG Austria GmbH & Co. KG

Founded in 1947, KRAIBURG Austria is an independent company within the KRAIBURG Group. Thanks to a shared corporate history, the Austrian company has developed great experience and know-how in rubber processing, and is now one of the leading names in the rubber industry. KRAIBURG Austria has struck a balance between international expansion and retaining the values of decency and humility that characterize a family business with around 300 employees.



KRAIBURG Austria only processes rubber goods of the highest quality. For many years, the company from Upper Austria has specialized in retreading tires and has become one of the most important suppliers of tire material, providing solutions for industry-specific problems of all kinds. Retreading makes worn tires safer, more economical and more environmentally-friendly, giving them a new lease of life. For every area of use and application, from trucks to large tires for earth-moving machinery (EM) - regardless of whether it involves hot or precure retreading - KRAIBURG has the right tread and the ideal compound. This is what makes KRAIBURG Austria number one in most European markets.

## CURRENT SITUATION / CHALLENGES

### Specialist for retreading processes

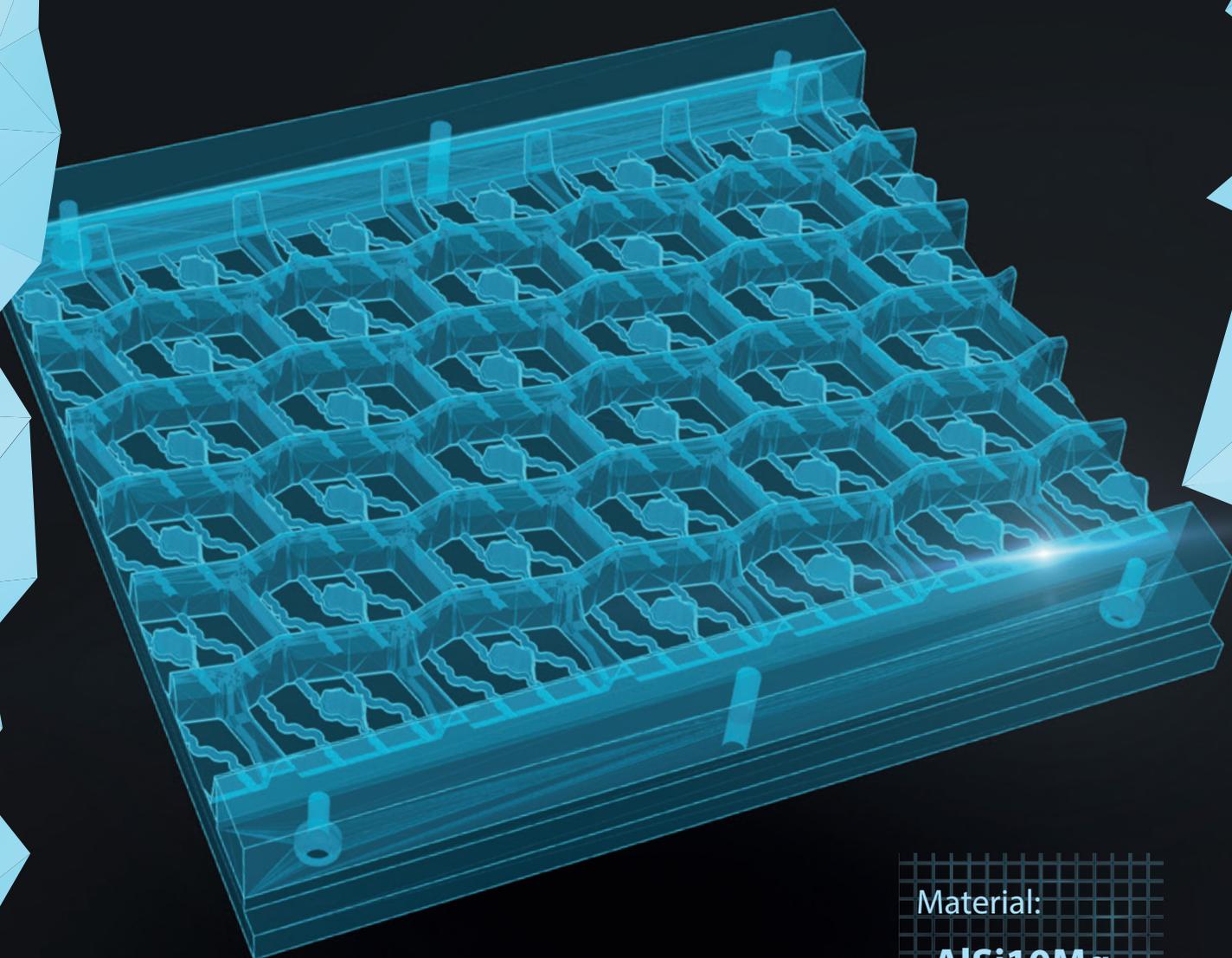
As Europe's biggest specialist in retreading material, KRAIBURG Austria produces high-quality material for both hot and precure retreading processes. The compound and tread used are always tailored to suit the application of the tire and the specific demands that involves. The production location in Geretsberg/Upper Austria produces pre-vulcanized tire treads to a length of 10m on multi-level presses. The treads are then delivered to retreaders all over Europe, which then give worn truck tires a new lease of life.

Designation:

**KRAIBURG-SLM®-  
TIRE MOLDS**

Industry:

**AUTOMOTIVE**



Material:

**AlSi10Mg**

Manufactured on:

**SLM® 500 QUAD**

## SLM® SOLUTION

# New options for design and function in tire production

The Selective Laser Melting technology enables KRAIBURG mold makers to produce even the most complicated molds, which would be impossible to achieve with conventional production processes such as milling or casting.

The KRAIBURG tire molds, which are used in the retreading of truck tires, were produced on an SLM®500. When choosing materials, designers initially decided on aluminum – further tire molds are planned with a larger number of steel fins.



“3D printing allows us to create tire designs with undercuts and fins with a three-dimensional structure and varying thicknesses, all in one step,” says Thorsten Schmidt, General Manager KRAIBURG Austria. A clever combination of existing production steps with the SLM® process can minimize the number of mold areas to be pressed, which therefore leads to a cost advantage. This renders the restrictions of the “old” production methods irrelevant and opens up new possibilities regarding design and function. It is entirely possible to consider extending this printing process to other products and production areas, also within the KRAIBURG Group.

## SUMMARY

### KRAIBURG-SLM®-Tire Molds

- European specialist for retreading material with great experience and expertise in the rubber industry
- Production of KRAIBURG tire molds for retreading truck tires on an SLM®500
- Production of tire designs with undercuts and fins with a 3D structure and variable thicknesses in one step
- Achieving cost advantages and material savings thanks to a clever combination of existing production steps with the SLM® process



## About SLM Solutions

The Lübeck-based SLM Solutions Group AG is a leading provider of metal-based additive manufacturing technology. SLM Solutions focuses on the development, assembly and sale of machines and integrated system solutions in the field of selective laser melting.

SLM® technology offers diverse options in the metal-based additive manufacturing of parts, such as a new design and geometric freedom, lightweight construction through the reduction of metal part weight, significant advantages in terms of production speed and the manufacturing of internal undercut parts in low quantities.

Our products are utilized globally by customers from the most varied sectors, particularly in the aerospace, automotive, tooling, energy and healthcare industries, as well as in research and education.

They particularly value the following advantages of our technology partnership:

- Highest **productivity** using patented multi-laser technology
- Highest material density and **part quality** through our innovative gas stream management
- Completely closed **powder management** in an inert gas atmosphere
- Cutting-edge process monitoring using various **quality control modules**
- Multilingual open **software architecture** with customer adaptability
- Ultracompact **modular design**
- Long-term and **confidential customer relationships**
- **A technological leader and pioneer** in metal-based additive manufacturing with decades of market experience

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