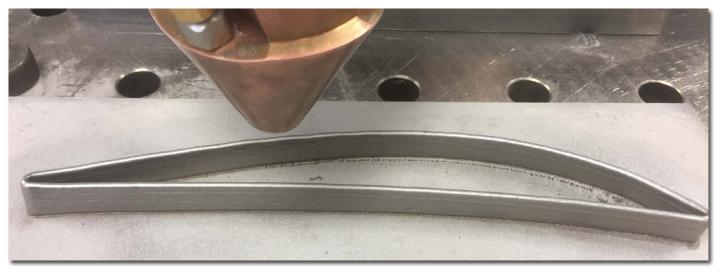


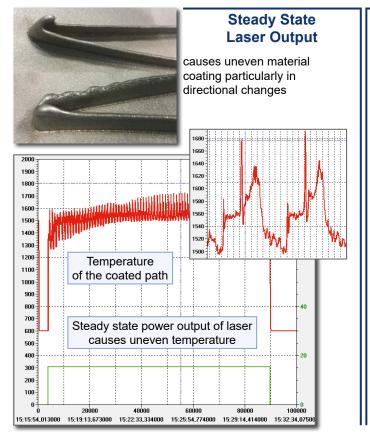
# Temperature Process Control and Process Documentation

## **Typical Applications**

- Laser hardening
- Laser cladding (LMD process)
- Laser annealing
- Heat conduction welding

### Laser Cladding / Laser Metal Deposition (LMD)

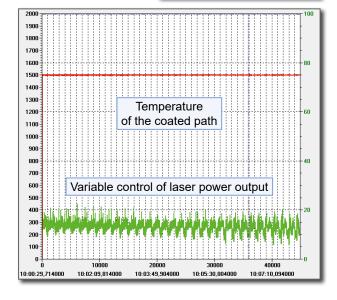




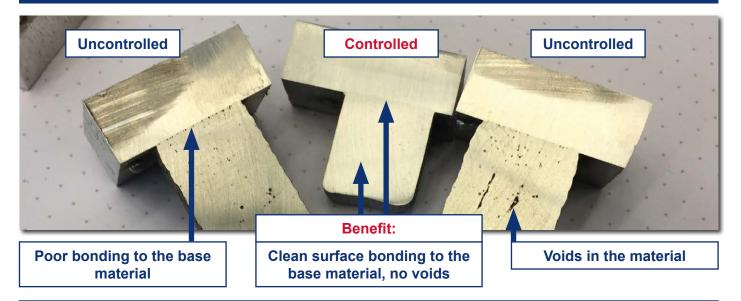
# Temperature Controlled Benefit:

Uniform material coating even with directional changes





#### **LMD Processes**



#### **Comparison of aluminum coatings**

Uncontrolled, uneven surface

Temperature control provides uniform surface

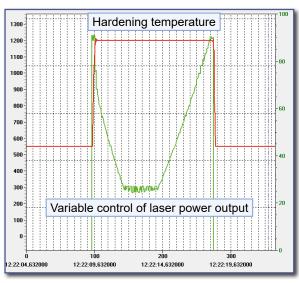
Uncontrolled, uneven surface



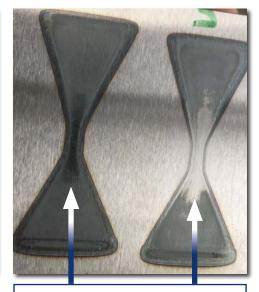
# **Hardening Processes**

#### Example: Temperature control for variable changes in beamspread of laser





Superior hardening results due to proper temperature control



After removing the oxide layer, no distortion or melting

The data correspond to the current state. Sensortherm reserves the right to make changes in scope of technical progress or further developments.

(Dec. 07, 2021)

#### Sensortherm GmbH

Infrared Temperature Measurement and Control

Hauptstr. 123 • D-65843 Sulzbach/Ts. Phone.: +49 6196 64065-80 • Fax: -89

www.sensortherm.com • info@sensortherm.com

