LDS
Arc wire coating units

Your expert for
cylinder bore coating

w w w. s c h e u c h l . d e
YOUR EXPERT FOR ARC WIRE COATING UNITS

COMPREHENSIVE KNOW-HOW, EXPERIENCE OF MANY YEARS IN COATING TECHNOLOGY OF MORE THAN 30 MILLION RUNNING SURFACES OF CRANKCASES AND LATEST PRODUCTION METHODS FOR HIGHEST PRODUCT QUALITY AND CUSTOMER SATISFACTION

SCHUCHL LDS UNITS - YOUR ADVANTAGES AT ONE GLANCE:

• Increased heat conduction and improved cooling conditions
• Reduction of friction loss because of micro-porosity of surfaces
• Significant reduction of weight
• Wear-resistant because of enormous hardness

Fully-automated and manual solutions available
Minimum of process time because of high power 2-wire-process and multi-lance units

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With the arc wire coating process a thin steel coating is applied directly to the activated aluminum running surface of crankcases. This coating is clearly lighter and harder than the ordinarily used steel bushings. Thus, weight is reduced and a more efficient fuel consumption is enabled.

A high-energetic arc is ignited between two charged wires and wire material is melted. Nitrogen is used as process gas and enables an even coating ray of liquid metal.

By means of a rotating coating lance or a rotary table, hot molten metal of 2000 °C is applied to the surfaces. The coating time per bore is about 35 - 40 seconds. During the process, overspray is exhausted by a high-performance extraction unit.
**INDIVIDUALITY**

A typical coating cell consists of two coating lances. The automatic lance cleaning system ensures a steady process and removes residues.

Four barrels of each containing 300 kg of wire guarantee a generously supply. Thus, changing intervals can be reduced while productivity can be increased.

In the entire unit, special hoses are used for wire guiding and to reduce friction.

During the coating process, a masking protects the top deck against impurity, ensures a clean casting and a defined coating border.

**PROCESS CONTROL**

An automated process control system by means of a PFI camera system enables a supervision of the spray jet. Thus, a constant application of the coating can be ensured.

**TYPICAL COATING FACTS**

- Thickness: ~ 400 - 600 µm
- Hardness: 750 - 900 HV 0.025
- Porosity: 8 - 17 %
- Roundness: < 100 µm
- Honed thickness: ~ 200 µm

**RESEARCH AND DEVELOPMENT**

Scheuchl is constantly developing and improving their processes. A test unit for coating tests is available at any time.