

Mechanical Engineering | Technology-Offer

Heating control for semi-solid metal casting (SSM)

State of the art

To perform a semi-solid metal casting process, the material has to be heated up until it's in a partly liquid state. Although there is no doubt about the advantages of this relatively new forming process, it couldn't find success in the market, yet. This was because of the insufficient control of the heating procedure. A homogeneously grain structure is needed with a definite ratio of liquid and solid parts.

Invention

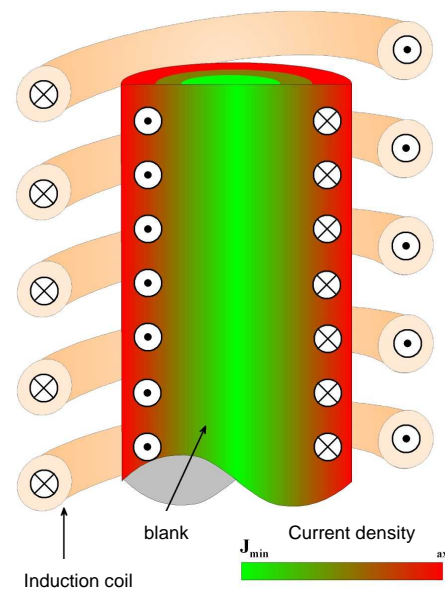
The inventive procedure enables to regulate the induction heating process in order to achieve the desired grain structure. As the material properties change during heating, analyzing the measured values of electrical resistance and permeability allow to determine the actual grain structure.

Advantages

- Fast online processing
- Compensation of batch variations
- Increase in quality
- Less manufacturing rejects
- 100% quality control becomes redundant
- Increased process safety
- Tremendous cost reduction

Industrial property rights

International patent application pending.



Commercial exploitation

The TLB GmbH offers interested companies the possibility to license this technology.

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