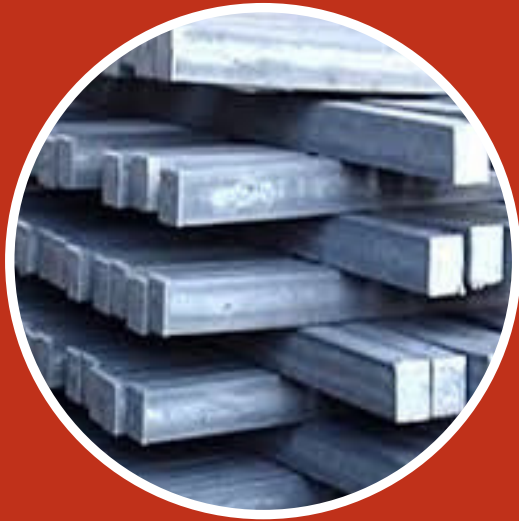


INDUSTRIAL INDUCTION HEATER

ALMA MATER STUDIORUM - UNIVERSITY OF BOLOGNA



The invention is a highly performing innovation-driven method of heating of **large steel workpiece** by induction, achieving high temperature uniformity and reduced treatment times.

Patent: pending in Italy

Inventors: Antonio Morandi, Massimo Fabbri

INVENTION

High temperature uniformity is required in heating of large steel work-piece. The present invention involves applying both an AC field (via copper coils) and an intense DC magnetic field (via superconducting coils) which alters the magnetic properties of the material to be heated. Thus, a deeper penetration of the induced currents takes place and, therefore, a much more uniform heating is made possible.

ADVANTAGES

- better performance in terms of productivity, treatment velocity, surface quality,
- control over the process
greater direct and indirect energy efficiency of the production process
- no CO₂ emissions which are contrariwise present in industrial gas heaters
- possibility to use electricity generated from renewable sources

APPLICATIONS

- production of semi-finished steel and steel processing
- re-introduction of steel swarf into the production cycle

CONTACTS

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