

Title (en)

AN INDUCTION HEATING METHOD FOR HEATING A METAL BODY, AND AN APPARATUS FOR CARRYING OUT SAID METHOD

Title (de)

INDUKTIONSERWÄRMUNGSVERFAHREN ZUM ERWÄRMEN EINES METALLKÖRPERS UND VORRICHTUNG ZUR DURCHFÜHRUNG DES VERFAHRENS

Title (fr)

PROCÉDÉ DE CHAUFFAGE PAR INCIDENCE POUR LE CHAUFFAGE D'UN CORPS MÉTALLIQUE ET APPAREIL POUR LA MISE EN UVRE DUDIT PROCÉDÉ

Publication

**EP 4102935 A1 20221214 (EN)**

Application

**EP 22177698 A 20220607**

Priority

IT 202100014804 A 20210607

Abstract (en)

An induction heating method and apparatus for heating a metal body by electromagnetic induction, wherein an electric generation unit (40) is configured to supply a working current into an inductor winding (32) of an inductor circuit (30) of a portable induction heating device (1) comprising a hollow handle portion or handpiece (10) that includes such electric components as a current transformer (50), and wherein a cooling air feed section (60) is arranged for conveying a flow of pressurized cooling air (2) in a cooling flowpath (70) defined within the inductor winding (32) and within the hollow handle portion (10). A control unit (80) is configured block a step (150) of supplying a working alternating current to inductor circuit (30) after a maximum heating time ( $\tau_{H}$ ), preferably 10-30 seconds has elapsed since when the step (150) of supplying said working alternating current is started, and for inhibiting further heating during an inhibition time ( $\tau_{I}$ ) preferably of 40-80 seconds, allowing a safe heating operation while avoiding a more expensive and troublesome liquid heating. (Figs. 1, 10]

IPC 8 full level

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CPC (source: EP)

**H05B 6/06** (2013.01); **H05B 6/101** (2013.01); **H05B 6/42** (2013.01)

Citation (applicant)

- US 3495063 A 19700210 - MILLER LEONIDAS C
- US 3022368 A 19620220 - MILLER LEONIDAS C
- WO 2017186963 A1 20171102 - TEKNEL S R L [IT]

Citation (search report)

- [A] US 2012248093 A1 20121004 - ULRICH MARK ANDREW [US], et al
- [A] US 2019297682 A1 20190926 - LIEBERT SCOTT [US], et al
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Designated contracting state (EPC)

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