

Title (en)

LOW-LOSS INDUCTION COIL FOR HEATING AND/OR MELTING METALLIC MATERIALS

Title (de)

VERLUSTARME INDUKTIONSSPULE ZUM ERWÄRMEN UND/ODER SCHMELZEN VON METALLISCHEM GUT

Title (fr)

BOBINE D'INDUCTION A FAIBLES PERTES POUR LE CHAUFFAGE ET/OU LA FUSION DE MATIERES METALLIQUES

Publication

**EP 0765592 B1 19980422 (DE)**

Application

**EP 95917895 A 19950511**

Priority

- DE 9500622 W 19950511
- DE 4420463 A 19940613

Abstract (en)

[origin: WO9535014A1] Described is a low-loss induction coil (2) for heating and/or melting metallic materials, the coil having windings formed by lengths of hollow tubing (3, 4) carrying a fluid coolant. In the central zone of the induction coil (2), the current is carried by hollow conductors (3) made of copper which at the same time form the hollow tubing. Fitted at least in the windings at one end of the coil (2) is a current-carrying element in the form of at least one braid (6) whose individual conductors are insulated from each other, while remaining windings are designed as hollow conductors (3) connected to the current-carrying element. The use of braids (6) as the current carrier leads, at the end of the coil, to a reduction in eddy-current losses caused by transverse magnetic fields, while the use of hollow conductors (3) in the rest of the coil results in the mean distance between the current flux and the metallic material being heated being kept at the minimum and losses due to this distance thus kept low.

IPC 1-7

**H05B 6/42**; H05B 6/24

IPC 8 full level

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