

Title (en)
METHOD AND DEVICE FOR OVERLAPPING WELDING OF TWO COATED METAL SHEETS WITH A BEAM OF HIGH ENERGY DENSITY

Title (de)
VERFAHREN UND VORRICHTUNG ZUM ÜBERLAPPSCHWEISSEN ZWEIER ÜBERZOGENER METALLPLATTEN MIT EINEM STRAHL HOHER ENERGIEDICHTE

Title (fr)
PROCEDE ET DISPOSITIF DE SOUDAGE PAR RECOUVREMENT A L'AIDE D'UN FAISCEAU A HAUTE DENSITE D'ENERGIE DE DEUX TOLES REVETUES

Publication
EP 1434667 A1 20040707 (FR)

Application
EP 02800631 A 20021003

Priority

- FR 0203380 W 20021003
- FR 0112990 A 20011009

Abstract (en)
[origin: FR2830477A1] Overlapping welding of two coated metal sheets using a high density energy beam involves splitting the beam into a sub-beam passing through both metal coated sheets and a non-through second sub-beam forming a second molten metal bath. A neutral gas jet is directed onto the second molten metal bath to form a sink at the surface of the second molten metal bath. Overlapping welding of two coated metal sheets (1, 2) with a beam of high density energy (11) consists of splitting the beam into (i) a sub-beam (12) passing through both coated metal sheets and forming a first molten metal bath (18) and (ii) a non-through second sub-beam (13) forming a second molten metal bath (19) with a depth of less than the thickness of the upper coated metal sheet and overlapping at least a part of the first molten metal bath to favor the evacuation of vapor from the coating material. A neutral gas jet (21) is directed onto the second molten metal bath at a high ejection speed to form a sink (22) at the surface of the second molten metal bath. An Independent claim is included for a device for the overlapping welding by means of a high density energy beam.

IPC 1-7
B23K 26/32; B23K 15/00

IPC 8 full level
B23K 26/00 (2006.01); **B23K 15/00** (2006.01); **B23K 26/067** (2006.01); **B23K 26/14** (2006.01); **B23K 26/20** (2006.01); **B23K 26/24** (2006.01); **B23K 26/32** (2006.01); **B23K 101/04** (2006.01); **B23K 101/16** (2006.01)

CPC (source: EP US)
B23K 15/0046 (2013.01 - EP US); **B23K 26/0608** (2013.01 - EP US); **B23K 26/067** (2013.01 - EP US); **B23K 26/142** (2015.10 - EP US); **B23K 26/1438** (2015.10 - EP US); **B23K 26/147** (2013.01 - EP US); **B23K 26/244** (2015.10 - EP US); **B23K 2101/34** (2018.07 - EP US); **B23K 2103/04** (2018.07 - EP US); **B23K 2103/08** (2018.07 - EP US)

Citation (search report)
See references of WO 03031111A1

Designated contracting state (EPC)
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LI LU MC NL PT SE SK TR

DOCDB simple family (publication)
FR 2830477 A1 20030411; FR 2830477 B1 20040206; BR 0213630 A 20040914; CA 2461994 A1 20030417; CA 2461994 C 20081209; EP 1434667 A1 20040707; JP 2005504641 A 20050217; JP 4209326 B2 20090114; MX PA04003230 A 20040723; US 2004200813 A1 20041014; US 6914213 B2 20050705; WO 03031111 A1 20030417

DOCDB simple family (application)
FR 0112990 A 20011009; BR 0213630 A 20021003; CA 2461994 A 20021003; EP 02800631 A 20021003; FR 0203380 W 20021003; JP 2003534127 A 20021003; MX PA04003230 A 20021003; US 49190904 A 20040408