

Title (en)

LASER METHOD WITH DIFFERENT LASER BEAM AREAS WITHIN A BEAM AND DEVICES

Title (de)

LASERVERFAHREN MIT UNTERSCHIEDLICHEN LASERSTRAHLBEREICHEN INNERHALB EINES STRAHLS UND VORRICHTUNGEN

Title (fr)

PROCÉDÉ LASER PRÉSENTANT DIVERSES ZONES DE FAISCEAU LASER AU SEIN D'UN FAISCEAU ET DISPOSITIFS

Publication

**EP 2943310 A1 20151118 (DE)**

Application

**EP 14705323 A 20140214**

Priority

- EP 13158185 A 20130307
- EP 2014052939 W 20140214
- EP 14705323 A 20140214

Abstract (en)

[origin: EP2774713A1] The method comprises applying a material to a crack in metallic substrates (20) and melting the material in the substrate using a laser beam (1). The laser-beam has inner (7) and outer (4) beam portions that have different power and wavelengths. The inner portion is surrounded by the outer portion. The method further comprises treating the substrate and performing a deposition welding process. The inner portion of the laser beam is concentrically arranged within the outer portion of the laser beam. The inner laser beam portion has a diameter of 3 mm. The method comprises applying a material to a crack in metallic substrates (20) and melting the material in the substrate using a laser beam (1). The laser-beam has inner (7) and outer (4) beam portions that have different power and wavelengths. The inner portion is surrounded by the outer portion. The method further comprises treating the substrate and performing a deposition welding process. The inner portion of the laser beam is concentrically arranged within the outer portion of the laser beam. A power or intensity of the inner laser beam portion is 50% greater than a power or intensity of the outer laser beam portion, or is 200-300 W. The inner laser beam portion has a diameter of 3 mm. The outer laser beam portion has diameter of 4 mm. An independent claim is included for a device for or generating a laser beam.

IPC 8 full level

**B23K 26/06** (2014.01); **B23K 26/00** (2014.01); **B23K 26/067** (2006.01); **B23K 26/34** (2014.01)

CPC (source: EP US)

**B23K 26/064** (2015.10 - EP US); **B23K 26/0648** (2013.01 - EP US); **B23K 26/067** (2013.01 - US); **B23K 26/0676** (2013.01 - EP US); **B23K 26/34** (2013.01 - EP US); **B23K 26/354** (2015.10 - EP US); **C22B 9/221** (2013.01 - US)

Citation (search report)

See references of WO 2014135358A1

Citation (examination)

- JP 2008168333 A 20080724 - JAPAN UNIX CO LTD
- JP 2003340582 A 20031202 - MITSUBISHI HEAVY IND LTD
- DE 112007003258 T5 20091119 - JAPAN UNIX CO LTD [JP]
- EP 2810736 A1 20141210 - SIEMENS AG [DE]

Designated contracting state (EPC)

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Designated extension state (EPC)

BA ME

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