

Title (en)
METHOD OF LASER RE-MELT REPAIR OF SUPERALLOYS USING FLUX

Title (de)
REPARATURVERFAHREN DURCH LASERNEUVERSCHMELZUNG VON SUPERLEGIERUNGEN DURCH STRÖMUNG

Title (fr)
PROCÉDÉ DE RÉPARATION PAR RE-FUSION PAR LASER DES SUPERALLIAGES À L'AIDE D'UN FLUX

Publication
EP 2950973 A1 20151209 (EN)

Application
EP 14704049 A 20140129

Priority
• US 201313755625 A 20130131
• US 2014013548 W 20140129

Abstract (en)
[origin: WO2014120736A1] A method of repairing service-induced surface cracks (92) in a superalloy component (90). A layer of powdered flux material (100) is applied over the cracks and is melted with a laser beam (98) to form a re-melted zone (104) of the superalloy material under a layer of slag (106). The slag cleanses the melt pool of contaminants that may have been trapped in the cracks, thereby eliminating the need for pre-melting fluoride ion cleaning. Optionally, alloy feed material may be applied with the powdered flux material to augment the volume of the melt or to modify the composition of the re-melted zone.

IPC 8 full level
B23P 6/00 (2006.01); **B23K 25/00** (2006.01); **B23K 26/34** (2014.01); **C23C 24/10** (2006.01); **F01D 5/00** (2006.01)

CPC (source: CN EP)
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Citation (search report)
See references of WO 2014120736A1

Designated contracting state (EPC)
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DOCDB simple family (application)
US 2014013548 W 20140129; CN 201480006745 A 20140129; EP 14704049 A 20140129; JP 2015556094 A 20140129; KR 20157023418 A 20140129; RU 2015136564 A 20140129