

Title (en)
FLUX SHEET FOR LASER PROCESSING OF METAL COMPONENTS

Title (de)
FLUSSMITTELBLECH ZUR LASERVERARBEITUNG VON METALLKOMPONENTEN

Title (fr)
FEUILLE DE FLUX POUR TRAITEMENT AU LASER D'ÉLÉMENTS MÉTALLIQUES

Publication
EP 3174665 A1 20170607 (EN)

Application
EP 15827346 A 20150727

Priority
• US 201414341888 A 20140728
• US 201414507935 A 20141007
• US 2015042200 W 20150727

Abstract (en)
[origin: WO2016018791A1] A flux sheet (20A) and method of using the flux sheet to restore a surface (24) of a metal substrate (26). A laser beam (32) is directed onto the flux sheet to melt it and the surface, then allowed to cool and solidify to produce a restored surface. The flux sheet may be formulated to optically transmit at least 40% of electromagnetic energy from a laser onto the substrate surface. The flux sheet contains a flux composition that may include: a metal oxide, a metal silicate, or both; a metal fluoride; and a metal carbonate. The flux composition may limit the content of certain elements and compounds such as Fe, Li₂O, Na₂O and K₂O. The flux composition may include constituents providing air shielding, contaminant scavenging, viscosity/fluidity enhancement, and optical transmission of laser energy through the flux sheet.

IPC 8 full level
B23K 35/36 (2006.01); **B23K 35/02** (2006.01); **B23K 35/362** (2006.01)

CPC (source: EP)
B23K 35/02 (2013.01); **B23K 35/0255** (2013.01); **B23K 35/286** (2013.01); **B23K 35/36** (2013.01); **B23K 35/3601** (2013.01); **B23K 35/3602** (2013.01); **B23K 35/3603** (2013.01); **B23K 35/3605** (2013.01); **B23K 35/3607** (2013.01); **B23K 35/361** (2013.01); **B23K 35/362** (2013.01)

Citation (search report)
See references of WO 2016018791A1

Cited by
CN111154295A

Designated contracting state (EPC)
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)
BA ME

DOCDB simple family (publication)
WO 2016018791 A1 20160204; CN 106573348 A 20170419; EP 3174665 A1 20170607

DOCDB simple family (application)
US 2015042200 W 20150727; CN 201580041237 A 20150727; EP 15827346 A 20150727