

Title (en)
PLUG AND METHOD FOR MANUFACTURING SAME

Title (de)
STECKER UND VERFAHREN ZUR HERSTELLUNG DAVON

Title (fr)
POINÇON ET SON PROCÉDÉ DE FABRICATION

Publication
EP 3357595 A4 20180919 (EN)

Application
EP 16850846 A 20160728

Priority
• JP 2015190400 A 20150928
• JP 2016072212 W 20160728

Abstract (en)
[origin: EP3357595A1] A plug that achieves prevention of peel-off of the coating and a method of manufacturing such a plug are provided. A plug (10) is used for piercing a billet. The plug (10) includes a plug body (1), a body coating (2), and a surface-layer coating (3). The body coating (2) is provided on a surface of the plug body. The body coating (2) contains iron and iron oxides. The surface-layer coating (3) is provided on the body coating (2). The surface-layer coating (3) contains iron and iron oxides. The surface-layer coating (3) has a porosity lower than that of a region of the body coating (2) adjacent to the surface-layer coating (3) and having a thickness equal to that of the surface-layer coating (3).

IPC 8 full level
B21B 25/00 (2006.01); **C23C 4/08** (2016.01)

CPC (source: EP US)
B21B 25/00 (2013.01 - US); **B21B 25/02** (2013.01 - US); **C23C 4/08** (2013.01 - EP US); **C23C 4/131** (2016.01 - EP); **B21B 25/00** (2013.01 - EP)

Citation (search report)
• [XAYI] JP H08193241 A 19960730 - KAWASAKI STEEL CO
• [YA] EP 2845657 A1 20150311 - NIPPON STEEL & SUMITOMO METAL CORP [JP]
• See references of WO 2017056669A1

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)
EP 3357595 A1 20180808; EP 3357595 A4 20180919; EP 3357595 B1 20210519; BR 112017028179 A2 20180828;
BR 112017028179 A8 20230103; BR 112017028179 B1 20230207; CN 108025338 A 20180511; CN 108025338 B 20191105;
JP 6515300 B2 20190522; JP WO2017056669 A1 20180322; MX 2018003118 A 20180606; US 2018281037 A1 20181004;
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EP 16850846 A 20160728; BR 112017028179 A 20160728; CN 201680054432 A 20160728; JP 2016072212 W 20160728;
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