

Title (en)

DIAMOND CUTTING ELEMENTS FOR DRILL BITS SEEDED WITH HCP CRYSTALLINE MATERIAL

Title (de)

DIAMANTSCHNEIDELEMENTE FÜR MIT KRISTALLINEM HCP-MATERIAL VERSETZTE BOHRKRONEN

Title (fr)

ÉLÉMENTS DE DÉCOUPE EN DIAMANT POUR TRÉPANS ENSEMENCÉS AVEC UNE MATIÈRE CRISTALLINE HCP

Publication

**EP 2847413 A4 20160106 (EN)**

Application

**EP 13788488 A 20130509**

Priority

- US 201261645833 P 20120511
- US 2013040422 W 20130509

Abstract (en)

[origin: WO2013170083A1] A polycrystalline diamond compact (PDC), which is attached or bonded to a substrate to form a cutter for a drill bit, is comprised of sintered polycrystalline diamond interspersed with a seed material which has a hexagonal close packed (HCP) crystalline structure. A region of the sintered polycrystalline diamond structure, near one or more of its working surfaces, which has been seeded with an HCP seed material prior to sintering, is leached to remove catalyst. Selectively seeding portions or regions of a sintered polycrystalline diamond structure permits differing leach rates to form leached regions with differing distances or depths and geometries.

IPC 8 full level

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CPC (source: CN EP US)

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Citation (search report)

- [XAI] US 4505746 A 19850319 - NAKAI TETSUO [JP], et al
- [X] US 4255165 A 19810310 - DENNIS MAHLON D, et al
- See also references of WO 2013170083A1

Designated contracting state (EPC)

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**WO 2013170083 A1 20131114**; CA 2872871 A1 20131114; CN 104662251 A 20150527; EP 2847413 A1 20150318; EP 2847413 A4 20160106; IN 9854DEN2014 A 20150807; ZA 201408477 B 20151223

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