

Title (en)

POLYCRYSTALLINE CUBIC BORON NITRIDE (PcBN) BODY MADE WITH DISTINCT LAYERS OF PcBN

Title (de)

KÖRPER AUS POLYKRISTALLINEM KUBISCHEM BORNITRID (PCBN) AUS VERSCHIEDENEN PCBN-SCHICHTEN

Title (fr)

CORPS EN NITRURE DE BORE CUBIQUE POLYCRISTALLIN (PCBN) CONSTITUÉ DE DIFFÉRENTES COUCHES DE PCBN

Publication

EP 2872274 A1 20150520 (EN)

Application

EP 13739547 A 20130628

Priority

- US 201261670676 P 20120712
- US 2013048666 W 20130628

Abstract (en)

[origin: US2014017435A1] A polycrystalline cubic boron nitride (PcBN) is fabricated using a process of overlaying layers of cubic boron nitride (cBN) powder, where the layers have cBN mixed with various concentrations of a ceramic. The process of fabricating the PcBN includes depositing, in a refractory capsule, a carbide, a cubic boron nitride (cBN), and a mixture of cBN and a ceramic, then applying a high pressure and high temperature (HPHT) to the content of the refractory capsule. During the depositing step of the process, the concentration of cBN in the mixture of the cBN and ceramic is lower than the concentration of cBN that is in the layer below it. Upon applying HPHT, the carbide first diffuses across the cBN layer, and then diffuses across the layer with the mixture of the cBN and ceramic. After HPHT ends and the content of the refractory capsule cools, the process yields a PcBN having layers with various concentrations of cBN, and at least one cBN layer with a ceramic material.

IPC 8 full level

B23B 27/14 (2006.01); **B32B 18/00** (2006.01); **C23C 28/04** (2006.01)

CPC (source: CN EP KR US)

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Citation (search report)

See references of WO 2014011420A1

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

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DOCDB simple family (application)

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