

Title (en)  
EARTH BORING DRILL BIT WITH MATRIX DISPLACING MATERIAL

Publication  
**EP 0312487 B1 19930929 (EN)**

Application  
**EP 88710036 A 19881012**

Priority  
US 10794587 A 19871013

Abstract (en)  
[origin: EP0312487A1] A rotary drill bit for drilling earth formations is provided and includes a bit shank, a hard metal matrix (14) secured to a blank (10) and cutting elements (21, 22) on the exterior face thereof. The matrix includes a displacement material (D) having a different composition than the matrix material within the matrix. The displacement material is preferably less expensive than the matrix material and also has different material properties. The resulting bit may be custom-engineered for toughness, ductility, and impact resistance.

IPC 1-7  
**B22F 7/06; E21B 10/46**

IPC 8 full level  
**B22F 7/06** (2006.01); **E21B 10/46** (2006.01)

CPC (source: EP)  
**B22F 7/06** (2013.01); **E21B 10/46** (2013.01)

Cited by  
US5284215A; EP0731249A3; US8955209B2; US9421671B2; WO2015175641A1

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