

Title (en)

METHOD FOR SYNTHESIS OF A CERMET COMPOSITE WITH REINFORCED HARDNESS AND RESULTING MATERIAL

Title (de)

VERFAHREN ZUR SYNTHESE EINES METALL-KERAMIK-VERBUNDWERKSTOFFS MIT VERBESSERTER HÄRTE UND ERHALTENES MATERIAL

Title (fr)

PROCEDE DE SYNTHESE D UN MATERIAU COMPOSITE METAL-CERAMIQUE A DURETE RENFORCEE ET MATERIAU OBTENU PAR CE PROCEDE

Publication

EP 1520055 A2 20050406 (FR)

Application

EP 03762714 A 20030630

Priority

- FR 0302016 W 20030630
- FR 0208357 A 20020704

Abstract (en)

[origin: WO2004005561A2] The invention concerns a method whereby wear and scratch resistance of metals having a reduced hardness is enhanced by embedding in a metal powder, non-oxide ceramic, such as nitrides and carbides, while preserving a metallic shine. The embedding of non-oxide ceramic particles is carried out by combined grinding of the metal powder in a ball-mill (1), followed by compacting and sintering of the resulting material. The metal powder can be sintered either in solid phase or in liquid phase. In order to improve compatibility between the ceramic particles and the metal during the sintering process, the non-oxide ceramic is selected so as to have a density close to that of a soft metal to be reinforced. The cermet composite obtained exhibits a reinforced hardness and a density close to that of the initial metal.

IPC 1-7

C22C 1/10

IPC 8 full level

C22C 1/10 (2006.01)

CPC (source: EP)

C22C 1/1084 (2013.01)

Citation (search report)

See references of WO 2004005561A2

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PT RO SE SI SK TR

DOCDB simple family (publication)

FR 2841804 A1 20040109; FR 2841804 B1 20050218; AU 2003260640 A1 20040123; AU 2003260640 A8 20040123; EP 1520055 A2 20050406; WO 2004005561 A2 20040115; WO 2004005561 A3 20041021

DOCDB simple family (application)

FR 0208357 A 20020704; AU 2003260640 A 20030630; EP 03762714 A 20030630; FR 0302016 W 20030630