

Title (en)

PROCESS FOR PREPARING METAL-CERAMIC COMPOSITE MATERIALS BY USING SURFACE-ACTIVE METALS AT THE CERAMIC-METAL INTERFACES

Publication

EP 0277450 B1 19930609 (FR)

Application

EP 87420356 A 19871229

Priority

FR 8618479 A 19861229

Abstract (en)

[origin: EP0277450A1] It is known to produce ceramic-metal composites developed by powder metallurgy (or ceramic) technology from a ceramic powder and a metal powder. To improve the bonding between the ceramic phase and the metal phase, a surface-active additive of metal type, chosen from the group of the elements Ti, V, Sc, Zr, Y, Nb, Hf, La and rare earths, and Ta, is added to the mixture of the metal and ceramic powders, preferably in the form of a pulverulent compound capable of decomposing under the action of heat, the combination of the powders, after the usual treatment, being formed and sintered to obtain a coherent monolith, where the ceramic phase is predominant in volume, namely 50% to 95%, the metal phase is minor in volume, namely 50% to 5%, and where the surface-active metal provides the bonding at the interfaces of the phases with or without formation of a compound or alloy.

IPC 1-7

C22C 29/00

IPC 8 full level

C22C 29/00 (2006.01); **C22C 32/00** (2006.01)

CPC (source: EP)

C22C 29/005 (2013.01); **C22C 32/00** (2013.01)

Cited by

CN106415036A; US5145513A; WO2015139699A1

Designated contracting state (EPC)

AT BE CH DE ES FR GB IT LI LU NL SE

DOCDB simple family (publication)

EP 0277450 A1 19880810; EP 0277450 B1 19930609; AT E90398 T1 19930615; DE 3786163 D1 19930715; DE 3786163 T2 19940127; ES 2042597 T3 19931216; FR 2608950 A1 19880701; FR 2608950 B1 19911018

DOCDB simple family (application)

EP 87420356 A 19871229; AT 87420356 T 19871229; DE 3786163 T 19871229; ES 87420356 T 19871229; FR 8618479 A 19861229