Title (en)

CERAMIC MATERIAL WITH A COMPOSITION WHICH IS MATCHED TO A COEFFICIENT OF THERMAL EXPANSION SPECIFIED BY A METALLIC MATERIAL

Title (de)

KERAMISCHER WERKSTOFF MIT EINER ZUSAMMENSETZUNG, DIE AUF EINEN DURCH EINEN METALLISCHEN WERKSTOFF VORGEGEBENEN WÄRMEAUSDEHNUNGSKOEFFIZIENT ABGESTIMMT IST

Title (fr)

MATÉRIAU CÉRAMIQUE AVEC UNE COMPOSITION ADAPTÉE À UN COEFFICIENT DE DILATATION THERMIQUE DÉTERMINÉ PAR UN MATÉRIAU MÉTALLIQUE

Publication

EP 2139824 A1 20100106 (DE)

Application

EP 08735921 A 20080408

Priority

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Abstract (en)

[origin: WO2008128885A1] When a ceramic material, because of the use to which it is put, must enter into a positive connection with a metal for the separation of an electrical potential, for example, by gluing or soldering, stresses arise when the ceramic material is subjected to heat because the coefficients of thermal expansion of metal and ceramic are different. Because metal usually expands more than ceramic, the ceramic may tear or even chip off. As a result of the equalization of potential over the defects in the ceramic, the cracks or chipping in the ceramic coating results in short circuits. According to the invention, it is therefore proposed that a portion of at least one other ceramic material with a significantly lower coefficient of thermal expansion be added to the base ceramic material which has a high coefficient of thermal expansion, in such an amount that the coefficient of thermal expansion of the material resulting from this composition is identical with the coefficient of thermal expansion of the metallic material with which said resulting material will be combined in a positive fit.

IPC 8 full level

C04B 35/04 (2006.01)

CPC (source: EP US)

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Citation (search report)

See references of WO 2008128885A1

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