

Title (en)

METHOD OF PREPARING METAL MATRIX COMPOSITE AND COATING LAYER AND BULK PREPARED THEREBY

Title (de)

VERFAHREN ZUR HERSTELLUNG EINES METALLMATRIXVERBUNDWERKSTOFFS UND DANACH HERGESTELLTE ÜBERZUGSSCHICHT UND MASSE

Title (fr)

PROCEDE DE PREPARATION D'UN COMPOSITE DE MATRICE METALLIQUE, COUCHE DE REVETEMENT ET MELANGE AINSI OBTENU

Publication

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Application

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Abstract (en)

[origin: WO2006109956A1] This invention provides a method of preparing a metal matrix composite, and a coating layer and bulk prepared by using the same and in particular, it provides a method of preparing a metal matrix composite, which comprises the steps of providing a substrate; preparing a mixed powder comprising i) a first metal powder comprising a metal, alloy or mixture particle thereof, ii) a second metal powder comprising an intermetallic compound forming metal particle which forms an intermetallic compound along with the metal or the alloy element of the alloy, and iii) a ceramic powder comprising a ceramic or mixture particle thereof; injecting the mixed powder prepared above into a spray nozzle for coating; coating the mixed powder on the surface of the substrate by accelerating the mixed powder in the state of non-fusion at a speed of 300 to 1,200 m/s by the flow of transportation gas flowing in the spray nozzle; and forming the intermetallic compound by the thermal treatment of the coated coating layer, and a coating layer and bulk prepared by using the same, whereby the coating layer and bulk material with high wear resistance and excellent resistance against fatigue crack on the surface without causing damages such as heat strain to the substrate during the preparation of the coating layer can be provided.

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