

Title (en)

METHOD AND DEVICE FOR PRODUCING A COMPOSITE ELEMENT FROM A CERAMIC INNER PART AND A METAL JACKET

Title (de)

VERFAHREN UND VORRICHTUNG ZUR HERSTELLUNG EINES VERBUNDELEMENTS AUS EINEM KERAMISCHEN INNENTEIL UND EINEM BLECHMANTEL

Title (fr)

PROCEDE ET DISPOSITIF POUR PRODUIRE UN ELEMENT COMPOSITE CONSTITUE D'UNE PARTIE INTERIEURE CERAMIQUE ET D'UN REVETEMENT METALLIQUE

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Application

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Abstract (en)

[origin: US6519829B1] According to known methods for producing a composite element from a truncated cone-shaped, fire-proof ceramic insert which is enclosed by a metal jacket, the outer jacket is heated separately and shrunk on the cold ceramic insert. Alternatively, after inductive heating of the outer jacket the ceramic insert, which is heated at the same time, is positioned in the metal jacket using a mechanical device. The invention aims to provide a new method which avoids the disadvantages associated with shrinking a separately heated hot metal jacket on to a colder ceramic insert and to provide a simple method which without inductive heating of the metal jacket and the use of mechanical devices for joining said jacket to the ceramic insert achieves an even bond between the metal jacket and ceramic insert. To this end the fire-proof insert is first introduced into the metal jacket and the conical metal jacket, which rests on a support such that its opening having the smaller diameter points downwards, is then heated from the outside. During heating the ceramic insert and metal jacket remain in constant contact. After they have been heated to a sufficiently high temperature the ceramic insert slides down by force of gravity in such a way that it expands the metal jacket and moves into the bonded position. The above composite elements are used in gas stirring systems during the production of pig iron and steel.

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