

Title (en)

METHOD FOR PRODUCING FIBRE REINFORCED METALLIC COMPONENTS

Title (de)

VERFAHREN ZUR HERSTELLUNG VON FASERVERSTÄRKTEN METALLISCHEN BAUTEILEN

Title (fr)

PROCEDE DE FABRICATION DE COMPOSANTS METALLIQUES RENFORCES PAR DES FIBRES

Publication

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Application

EP 00904850 A 20000208

Priority

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- DE 19905100 A 19990209

Abstract (en)

[origin: DE10005250A1] Fiber-reinforced metal component production comprises plastic shaping and then diffusion welding of an assembly of loose metal-coated SiC fibers (5) between metal pieces (2, 8). Production of a fiber-reinforced metallic component with a complicated spatial geometry comprises: (a) application of a desired number, distribution and orientation of metal-coated SiC fibers (5) onto a metallic profile piece (2) of simple geometry and fixing of the fibers by a metallic counter-piece (8); (b) plastic shaping of the assembly (10) under pressure between shaping tools (12,13) at elevated temperature and under vacuum to achieve the desired complicated geometry without significant bonding of the fibers (5) to one another or to the metallic pieces (2, 8); and (c) pressure and/or temperature increase for further compaction of the assembly between the tools and for consolidation by diffusion welding to produce a monolithic part which is then cooled and removed from the tools and which, alone or in combination with other parts, forms the component.

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