

Title (en)  
METHOD FOR REPAIRING MONOCRYSTALLINE MATERIALS

Title (de)  
VERFAHREN ZUR REPARATUR EINKRISTALLINER WERKSTOFFE

Title (fr)  
PROCÉDÉ DE RÉPARATION D'UN MATÉRIAU MONOCRISTALLIN

Publication  
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Application  
**EP 18796582 A 20181004**

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Abstract (en)  
[origin: WO2019080951A1] The invention relates to a method for coating a monocrystalline substrate surface of a component, which comprises a monocrystalline alloy, with a coating material. The surface to be coated is polished, and the substrate is transferred into a vacuum chamber where the entire substrate is heated externally to temperatures which correspond to at least half the melting temperature of the substrate in °C but which lie below the melting point of the substrate. The coating material is then applied onto the surface to be coated in the form of a powder by means of a vacuum plasma spraying process, wherein a powder with an average particle size ranging from 10 to 100 µm is used. The working pressure lies between 1 and 200 mbar, and an argon/hydrogen mixture is used as the working gas. Thus, at least one region is generated in the applied layer directly on the boundary surface of the coating material and the polished substrate surface, said region having the same monocrystalline orientation alignment as the substrate lying therebelow.

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