

Title (en)

Method for enhancing the corrosion and erosion resistance of the blade of a rotary thermal apparatus and blade produced by said method.

Title (de)

Verfahren zur Erhöhung des Korrosions- und Erosionswiderstandes einer Schaufel einer rotierenden thermischen Maschine und nach diesem Verfahren hergestellte Schaufel.

Title (fr)

Procédé pour modifier la résistance à la corrosion et à l'érosion d'une aube d'un appareil rotatif thermique et aube obtenu par ce procédé.

Publication

EP 0379699 A1 19900801 (DE)

Application

EP 89123291 A 19891215

Priority

CH 25289 A 19890126

Abstract (en)

[origin: JPH02230902A] PURPOSE: To increase the resistance to corrosion and erosion of a vane of a heat engine by spraying a protective surface layer consisting of 6 to 15 wt.% of Si, the remainder being Al, onto a surface of a base material using a high-speed process with a particle velocity of at least 300 m/s. CONSTITUTION: A vane of a rotating heat engine consists of mainly a ferritic and/or ferritic-martensitic base material by applying a protective surface layer securing firmly thereon. The protective surface layer consisting of 6 to 15 wt.% of Si, the remainder being Al, is sprayed onto a surface of the base material using a high-speed process with a particle velocity of at least 300 m/s. Consequently, it is possible to increase the resistance to corrosion and erosion of the vane of the rotating heat engine.

Abstract (de)

Verfahren zur Erhöhung des Korrosions- und Erosionswiderstandes einer Schaufel einer rotierenden thermischen Maschine, welche vorwiegend aus einem ferritischen und/oder ferritisch-martensitischen Grundmaterial besteht, indem eine feste haftende Oberflächenschutzschicht bestehend aus 6 bis 15 Gew.-% Si, Rest Al nach dem Hochgeschwindigkeitsverfahren mit einer Partikelgeschwindigkeit von mindestens 300 m/s auf die Oberfläche des Grundmaterials aufgespritzt wird.

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IPC 8 full level

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CPC (source: EP US)

C23C 4/067 (2016.01 - EP US); **F01D 5/288** (2013.01 - EP US); **Y10S 428/937** (2013.01 - EP US); **Y10T 428/12757** (2015.01 - EP US)

Citation (search report)

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- [A] PATENT ABSTRACTS OF JAPAN, Band 9, Nr. 309 (C-318)[2032], 5. Dezember 1985; & JP-A-60 149 761 (SHOWA DENKO K.K.) 07-08-1985
- [A] PATENT ABSTRACTS OF JAPAN, Band 13, Nr. 137 (C-582)[3485], 5. April 1989; & JP-A-63 303 048 (TOYOTA MOTOR CORP.) 09-12-1988

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