

Title (en)  
DEVICE FOR THE PROTECTION OF COMPONENTS HAVING A FLAMMABLE TITANIUM ALLOY FROM TITANIUM FIRE, AND METHOD FOR THE PRODUCTION THEREOF

Title (de)  
VORRICHTUNG ZUM SCHUTZ VON BAUTEILEN MIT BRENNBARER TITANLEGIERUNG VOR TITANFEUER UND VERFAHREN ZU DEREN HERSTELLUNG

Title (fr)  
DISPOSITIF POUR PROTÉGER DES ÉLÉMENTS AVEC UN ALLIAGE DE TITANE COMBUSTIBLE CONTRE LE FEU DE TITANE ET PROCÉDÉ POUR SA FABRICATION

Publication  
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Application  
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Abstract (en)  
[origin: CA2675107A1] The present invention enables the use of titanium-based materials in gas turbine construction, especially in engine, and particularly in compressor, construction, in that a device is provided, which protects the components (guide vanes, guide vane steps, rotating vanes, rotating vane steps) stressed by the titanium fire and/or FOD by means of a layer system comprising at least two layers, wherein the system is located on the surface of the components to be protected and is firmly connected thereto, optionally with the aid of an adhesive layer. The outer layer is of ceramic, and the layer beneath the same is metal. Optionally, further layers may follow, wherein ceramic and metal layers alternate each other. The invention further provides a method for the production of the device according to the invention. By means of the at least partial use of titanium alloys, particularly for the guide vanes of gas turbines, the invention enables a significant weight reduction of components in that the nickel or steel-based materials utilized according to state of the art can be omitted in favor of lighter titanium alloys.

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