

Title (en)

Improved durability metallic-ceramic turbine air seals.

Title (de)

Verbesserung der Lebensdauer von metallvulkanischen Turbinenabdichtungen.

Title (fr)

Amélioration de la résistance à l'usure d'un joint d'étanchéité d'une turbine constitué d'un matériau métal céramique.

Publication

EP 0185603 A1 19860625 (EN)

Application

EP 85630204 A 19851127

Priority

US 67579784 A 19841128

Abstract (en)

An improved durability turbine air seal comprises a metallic substrate, a metallic bond coat on the substrate, a continuously graded metal-ceramic layer on the bond coat and an outer layer of pure ceramic. The continuously graded metal-ceramic layer consists of a ceramic material having a reduced oxygen permeability compared to the zirconia material used in the prior art and a metallic material having a high resistance to oxidation. The seal is fabricated by plasma spraying with controlled substrate temperatures to induce in the sample a controlled strain distribution so as to make the seal resistant to failure in service. Other concepts for reducing the liability of the seal to failure by oxidation are described.

IPC 1-7

C23C 4/10

IPC 8 full level

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CPC (source: EP)

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Citation (search report)

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