

Title (en)

Strip seal for turbomachinery rotor blade tips

Title (de)

Lamellendichtung für Turbotriebwerke im Bereich der Rotorscheaufelspitzen

Title (fr)

Dispositif d'étanchéité à lamelles pour des extrémités des aubes mobiles de turbomachine

Publication

EP 0773347 B1 20000531 (DE)

Application

EP 96116641 A 19961017

Priority

DE 19542083 A 19951111

Abstract (en)

[origin: EP0773347A1] A turbine engine seal, for the rotor blade tip region, has a cover band ring on the blade tips and opposite stationary casing ring segments in the cowling for sealing the rotor-stator gap. The novelty is that the cover band ring (5) has a smooth radially outer surface (9) and is held radially displaceably by the blades (11), while elastic laminates (12) extend radially inwards from the stationary casing ring segments of the cowling (20) to form scraping faces. The out-of-roundness tolerance and roughness of the radially outer cover band ring surface (9), the elasticity of the laminates (12) and the size of the scraping face of each laminate (12) are mutually related such that, beyond a critical relative speed between the radially outer cover band ring surface (9) and the scraping faces, an aerodynamic smoothing of scraping faces occurs on the outer surface of the cover band ring (5). Pref. the cover band ring (5) is a closed self-supporting ring of fibre-reinforced material, pre f. of SiC, B or C fibres in a metallic or ceramic matrix.

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