

Title (en)
TURBINE COMPONENT THERMAL BARRIER COATING WITH VERTICALLY ALIGNED, ENGINEERED SURFACE AND MULTIFURCATED GROOVE FEATURES

Title (de)
WÄRMEDÄMMSCHICHT FÜR TURBINENKOMPONENTE MIT VERTIKAL AUSGERICHTETE, GESTALTETE OBERFLÄCHE UND MEHRFACH VERGABELTEN RILLEN

Title (fr)
REVÊTEMENT DE BARRIÈRE THERMIQUE POUR COMPOSANT DE TURBINE AVEC ÉLÉMENTS DE SURFACE VERTICALEMENT ALIGNÉS ET ÉLÉMENTS DE RAINURE À BIFURCATIONS MULTIPLES

Publication
EP 3259453 A1 20171227 (EN)

Application
EP 15820362 A 20151208

Priority
• US 2015016318 W 20150218
• US 2015016331 W 20150218
• US 2015064420 W 20151208

Abstract (en)
[origin: WO2016133580A1] Turbine engine (80) components, such as blades (92), vanes (104, 106), ring segment 110 abradable surfaces 120, or transitions (85), have vertically aligned engineered surface features (ESFs) (632, 634) and furcated engineered groove features (EGFs) (642, 652). A planform pattern of EGFs (642, 652) is cut into the outer surface of the component's thermal barrier coating (TBC). The EGF pattern includes a planform pattern of overlying vertices (644) respectively in vertical alignment with an underlying corresponding ESF (632, 634). At least three respective groove segments (642, 652, 642) within the EGF pattern (640) converge at each respective vertex (644) in a multifurcated pattern, so that crack-inducing stresses are attenuated in cascading fashion, as the stress (σ_A) is furcated (σ_B , σ_C) at each successive vertex juncture.

IPC 8 full level
F01D 5/14 (2006.01); **F01D 5/28** (2006.01); **F01D 11/08** (2006.01); **F01D 11/12** (2006.01)

CPC (source: EP US)
F01D 5/14 (2013.01 - EP); **F01D 5/18** (2013.01 - EP); **F01D 5/186** (2013.01 - EP); **F01D 5/28** (2013.01 - EP); **F01D 5/288** (2013.01 - EP US); **F01D 11/08** (2013.01 - EP); **F01D 11/12** (2013.01 - EP)

Citation (search report)
See references of WO 2016133580A1

Designated contracting state (EPC)
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