

Title (en)

INTEGRALLY BLADED ROTOR, GAS TURBINE ENGINE AND METHOD FOR MANUFACTURING AN INTEGRALLY BLADED ROTOR

Title (de)

INTEGRAL BESCHAUFELTER ROTOR, GASTURBINENTRIEBWERK UND VERFAHREN ZUR HERSTELLUNG EINES INTEGRAL BESCHAUFELTEN ROTORS

Title (fr)

ROTOR À AUBAGE INTÉGRAL, MOTEUR À TURBINE À GAZ ET PROCÉDÉ DE FABRICATION D'UN ROTOR À AUBAGE INTÉGRAL

Publication

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Application

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Abstract (en)

[origin: EP3882437A1] An integrally bladed rotor,(111) including: a plurality of blades (114; 214; 314; 414) integrally formed with a hub (112) as a single component, each of the plurality of blades (114; 214; 314; 414) having a blade body (124; 324; 424) extending from the hub (112) to an opposed blade tip surface (128; 228; 328; 428) along a longitudinal axis, wherein the blade body (124; 324; 424) defines a pressure side (130; 230; 330; 430) and a suction side (132; 232; 332; 432), and wherein the blade body (124; 324; 424) includes a cutting edge (134; 234; 334; 434) defined between the blade tip surface (128; 228; 328; 428) of the blade body (124; 324; 424) and the pressure side (130; 230; 330; 430) of the blade body (124; 324; 424), wherein the cutting edge (134; 234; 334; 434) is configured to abrade a seal section (116) of an engine case (110). A method for manufacturing an integrally bladed rotor (111) includes: forming a plurality of airfoils integrally with a hub (112) to form a single component, each of the plurality of airfoils having an opposed tip surface (128; 228; 328; 428) with respect to the hub (112) extending along a longitudinal axis, wherein each of the plurality of airfoils defines a pressure side (130; 230; 330; 430) and a suction side (132; 232; 332; 432); and forming a cutting edge (134; 234; 334; 434) between the tip surface (128; 228; 328; 428) and the pressure side (130; 230; 330; 430) of each of the plurality of airfoils, wherein the cutting edge (134; 234; 334; 434) is configured to abrade a seal section (116) of an engine case (110).

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