

Title (en)  
ROTOR BLADE AND METHOD FOR REDUCING TIP RUB LOADING

Title (de)  
LAUFSCHAUFEL UND VERFAHREN ZUR VERMINDERUNG VON REIBERMÜDUNG

Title (fr)  
AUBE DE ROTOR ET PROCÉDÉ RÉDUISANT LA CHARGE LIÉE AU FROTTEMENT

Publication  
**EP 2449216 A1 20120509 (EN)**

Application  
**EP 10727571 A 20100602**

Priority

- US 2010036996 W 20100602
- US 49461009 A 20090630
- US 49459509 A 20090630

Abstract (en)  
[origin: WO2011002570A1] An air foil (42) for use in a rotor assembly is disclosed, the airfoil having a tip- cutter (100) located on a sidewall (44) near a tip portion (60). Wherein the tip-cutter (100) is capable of removing a portion of an abradable material (32) during a tip rub. In another embodiment an airfoil (42) has a tip-grinder (120) located on the tip portion (60) wherein the tip-grinder (120) capable of removing a portion of an abradable material (32) during a tip rub in another embodiment an airfoil (42) has a tip-rake (110) that facilitates reducing loading induced to said airfoil (42) during tip rubs. A method (300) for reducing tip rub loads in a rotor blade (15) is described comprising the steps of incorporating a tip-cutter (100) having a selected a cutter-profile (102) on a selected location on the blade (15) such that tip-cutter (100) is capable of removing a portion of a static structure (32) during a tip rub such that tip rub loads are facilitated to be reduced.

IPC 8 full level  
**F01D 5/20** (2006.01); **F01D 11/12** (2006.01); **F04D 29/16** (2006.01); **F04D 29/38** (2006.01); **F04D 29/54** (2006.01)

CPC (source: EP)  
**F01D 5/20** (2013.01); **F01D 11/122** (2013.01); **F04D 29/164** (2013.01); **F04D 29/324** (2013.01); **F05D 2220/36** (2013.01); **Y02T 50/60** (2013.01)

Citation (search report)  
See references of WO 2011002570A1

Cited by  
US10060273B2; US10221698B2; US10794394B2; US11268183B2; US11920245B2

Designated contracting state (EPC)  
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO SE SI SK SM TR

DOCDB simple family (publication)  
**WO 2011002570 A1 20110106**; CA 2766534 A1 20110106; CA 2766534 C 20171212; EP 2449216 A1 20120509; JP 2012532268 A 20121213; JP 5628307 B2 20141119

DOCDB simple family (application)  
**US 2010036996 W 20100602**; CA 2766534 A 20100602; EP 10727571 A 20100602; JP 2012517542 A 20100602