

Title (en)  
NICKEL BASE SUPERALLOY COMPOSITIONS AND ARTICLES THEREOF

Title (de)  
ZUSAMMENSETZUNGEN VON SUPERLEGIERUNGEN AUF BASIS VON NICKEL UND BAUTEILE DARAUS

Title (fr)  
COMPOSITIONS DE SUPERALLIAGES À BASE DE NICKEL ET COMPOSANT EN CES COMPOSITIONS

Publication  
**EP 2449140 A1 20120509 (EN)**

Application  
**EP 10727610 A 20100615**

Priority  
• US 2010038640 W 20100615  
• US 79424410 A 20100604  
• US 22194609 P 20090630

Abstract (en)  
[origin: US2010329921A1] A superalloy composition comprising, in weight percent: about 6.2-6.6 Al, about 6.5-7.0 Ta, about 6.0-7.0 Cr, about 6.25-7.0 W, about 1.5-2.5 Mo, about 0.15-0.60 Hf, 0.0-1.0 Re, 6.5-9.0 Co, optionally, 0.03-0.06 C, optionally, up to about 0.004 B, optionally up to about 0.03 total of one or more rare earth elements selected from yttrium (Y), lanthanum (La), or cerium (Ce), balance nickel, such that the superalloy composition exhibits a stress rupture capability improvement of at least 15% over a base stress rupture capability of a base composition nominally comprising, in weight percent: 6.5 Al, 6.6 Ta, 6.0 Cr, 6.25 W, 1.5 Mo, 0.15 Hf, 0.0 Re, 7.5 Co. Articles incorporating the superalloy composition include a gas turbine engine component such as a high pressure turbine nozzle or nozzle segment.

IPC 8 full level  
**C22C 1/02** (2006.01); **C22C 19/05** (2006.01); **F01D 5/06** (2006.01); **F01D 9/02** (2006.01)

CPC (source: EP US)  
**C22C 19/057** (2013.01 - EP US); **F01D 5/28** (2013.01 - EP US); **F01D 9/041** (2013.01 - EP US)

Citation (search report)  
See references of WO 2011002605A1

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)  
**US 2010329921 A1 20101230**; CA 2766552 A1 20110106; EP 2449140 A1 20120509; EP 2449140 B1 20150520; JP 2012532250 A 20121213; JP 5763062 B2 20150812; WO 2011002605 A1 20110106

DOCDB simple family (application)  
**US 79424410 A 20100604**; CA 2766552 A 20100615; EP 10727610 A 20100615; JP 2012517577 A 20100615; US 2010038640 W 20100615