

Title (en)
NICKEL BASE SUPERALLOY COMPOSITIONS, SUPERALLOY ARTICLES, AND METHODS FOR STABILIZING SUPERALLOY COMPOSITIONS

Title (de)
SUPERLEGIERUNGSZUSAMMENSETZUNG AUF NICKELBASIS, SUPERLEGIERUNGSARTIKEL UND VERFAHREN ZUR STABILISIERUNG VON SUPERLEGIERUNGSZUSAMMENSETZUNGEN

Title (fr)
COMPOSITIONS DE SUPERALLIAGE À BASE DE NICKEL, ARTICLES DE SUPERALLIAGE ET PROCÉDÉS DE STABILISATION DE COMPOSITIONS DE SUPERALLIAGE

Publication
EP 2229462 A1 20100922 (EN)

Application
EP 08867005 A 20081113

Priority
• US 2008083361 W 20081113
• US 96467907 A 20071226

Abstract (en)
[origin: WO2009085420A1] A stabilized superalloy composition comprises tungsten, molybdenum, and optionally rhenium, the superalloy composition being modified with a stabilizing amount of hafnium sufficient to decrease the formation of topologically close packed (TCP) phases in a superalloy microstructure at elevated temperatures with respect to a comparable unmodified superalloy composition. Articles exhibiting increased microstructure stability formed from hafnium-modified superalloy compositions may be utilized in gas turbine engines. Methods for stabilizing superalloy compositions at elevated temperatures include utilizing hafnium as a stabilizer to decrease the propensity to form TCP phases.

IPC 8 full level
C22C 19/05 (2006.01)

CPC (source: EP)
C22C 19/057 (2013.01)

Citation (search report)
See references of WO 2009085420A1

Citation (examination)
JP S60141843 A 19850726 - GEN ELECTRIC

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Designated extension state (EPC)
AL BA MK RS

DOCDB simple family (publication)
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US 2008083361 W 20081113; CN 200880123563 A 20081113; EP 08867005 A 20081113; JP 2010540690 A 20081113