

Title (en)

NICKEL-BASE ALLOY HEAT TREATMENTS, NICKEL-BASE ALLOYS, AND ARTICLES INCLUDING NICKEL-BASE ALLOYS

Title (de)

WÄRMEBEHANDLUNG VON NICKELBASISLEGIERUNGEN, NICKELBASISLEGIERUNGEN UND ARTIKEL MIT DEN NICKELBASISLEGIERUNGEN

Title (fr)

TRAITEMENTS THERMIQUES D'ALLIAGE À BASE DE NICKEL, ALLIAGES À BASE DE NICKEL ET ARTICLES COMPRENANT DES ALLIAGES À BASE DE NICKEL

Publication

EP 2785886 A1 20141008 (EN)

Application

EP 12783832 A 20121102

Priority

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- US 2012063142 W 20121102

Abstract (en)

[origin: US2013133793A1] A method for heat treating a 718-type nickel-base comprises heating a 718-type nickel-base alloy to a heat treating temperature, and holding the alloy at the heat treating temperature for a heat treating time sufficient to form an equilibrium or near-equilibrium concentration of delta-phase grain boundary precipitates within the nickel-base alloy and up to 25 percent by weight of total gamma'-phase and gamma"-phase. The 718-type nickel-base alloy is air cooled. The present disclosure also includes a 718-type nickel-base alloy comprising a near-equilibrium concentration of delta-phase grain boundary precipitates and up to 25 percent by weight of total gamma'-phase and gamma"-phase precipitates. Alloys according to the disclosure may be included in articles of manufacture such as, for example, face sheet, honeycomb core elements, and honeycomb panels for thermal protection systems for hypersonic flight vehicles and space vehicles.

IPC 8 full level

C22C 19/05 (2006.01)

CPC (source: EP RU US)

C22C 19/055 (2013.01 - EP RU US); **C22C 19/056** (2013.01 - EP RU US); **C22F 1/10** (2013.01 - EP RU US)

Citation (search report)

See references of WO 2013081770A1

Citation (examination)

STOTTER C ET AL: "Characterization of .delta.-phase in superalloy Allvac 718Plus", INTERNATIONAL JOURNAL OF MATERIALS RESEARCH, CARL HANSER VERLAG, MUNCHEN, DE, vol. 99, no. 4, 1 April 2008 (2008-04-01), pages 376 - 380, XP001519031, ISSN: 1862-5282, DOI: 10.3139/146.101648

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DOCDB simple family (application)

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