

Title (en)

Cast columnar grain hollow nickel base alloy article and alloy and heat treatment for making.

Title (de)

Gegossenes aus stengelförmigen Kristallen bestehendes hohles Werkstück auf Nickel basierender Legierung sowie die Legierung und Wärmebehandlung für dessen Herstellung.

Title (fr)

Pièce creuse en alliage à base de nickel coulé comportant une structure de grains colonnaire, alliage et procédé de sa fabrication.

Publication

EP 0362661 B1 19950308 (EN)

Application

EP 89117666 A 19890925

Priority

US 25310988 A 19881003

Abstract (en)

[origin: EP0362661A1] One form of an improved cast, hollow, columnar grain nickel base alloy article is provided with outstanding elevated temperature stability as represented by oxidation resistance, an improved combination of longitudinal and transverse stress rupture properties, and a thin wall of less than about 0.035 inch, substantially free of cracks. Described is a heat treatment in combination with an alloy for providing such an article. The alloy contains essentially in weight percent: C 0.1-0.15 Hf 0.3-2 Co 11-14 Ta 5-9 V no more than 1 Zr less than .05 Cr 5-10 Mo 0.5-3 W 4-7 Ti no more than 1 Al 5-7 Re 1.5-4 B .005-.03 Cb 0-1.5 Y 0-0.5 Ni Rest Articles produced in the alloy may be solution annealed at 2025-2075 DEG F (1246-1293 DEG C) and aged in a multi-step aging process.

IPC 1-7

C22C 19/05; **C22F 1/10**

IPC 8 full level

C22C 19/05 (2006.01); **C22F 1/00** (2006.01); **C22F 1/10** (2006.01)

CPC (source: EP)

C22C 19/057 (2013.01); **C22F 1/10** (2013.01)

Cited by

EP1795621A1; US5443789A; EP1053804A1; US5316866A; EP0940473A1; US5783318A; EP2218798A3; EP3141623A1; US7938919B2; US6224695B1; WO9535396A1; EP2218798B1

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