

Title (en)

Nickel base heat resistant cast alloy and turbine wheels made thereof

Title (de)

Hitzebeständige Nickeltgusslegierung und daraus hergestellte Turbinenräder

Title (fr)

Alliage de fonte à base de nickel résistant à la chaleur et roues de turbines de cette alliage

Publication

EP 1462533 A1 20040929 (EN)

Application

EP 04006947 A 20040323

Priority

- JP 2003080844 A 20030324
- JP 2004014921 A 20040122

Abstract (en)

Disclosed is a nickel-base super heat resistant cast alloy, from which turbine wheels of automobile engines can be manufacture by casting. The alloy consists essentially of, by weight %, C: 0.02-0.50%, Si: up to 1.0%, Mn: up to 1.0%, Cr: 4.0-10.0%, Al: 2.0-8.0%, Co: up to 15.0%, W: 8.0-16.0%, Ta: 2.0-8.0%, Ti: up to 3.0%, Zr: 0.001-0.200% and B: 0.005-0.300% and the balance of Ni and inevitable impurities, provided that, $\text{\AA}\% \text{Al}\ddot{\text{U}} + \text{\AA}\% \text{Ti}\ddot{\text{U}} + \text{\AA}\% \text{Ta}\ddot{\text{U}}$, by atomic %, amounts to 12.0-15.5%, that it contains gamma / gamma '-eutectoid of, by area percentage, 1-15%, that it contains carbides of, by area percentage, 1-10%, and that the "M-value" determined by the alloy composition is in the range of 93-98. The turbine wheels withstand temperature increase of exhaust gas.

IPC 1-7

C22C 19/05; **F01D 5/28**

IPC 8 full level

C22C 19/05 (2006.01); **F01D 5/28** (2006.01); **F02B 39/00** (2006.01)

CPC (source: EP US)

C22C 19/057 (2013.01 - EP US); **F01D 5/28** (2013.01 - EP US)

Citation (search report)

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DOCDB simple family (application)

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