

Title (en)
Heat resistant superalloy and its use

Title (de)
Hitzebeständige Superlegierung und ihre Verwendung

Title (fr)
Superaliage résistant à la chaleur et son utilisation

Publication
EP 1568795 B1 20080430 (DE)

Application
EP 04024768 A 20041018

Priority
• EP 04024768 A 20041018
• EP 03026683 A 20031120

Abstract (en)
[origin: US2005238526A1] A heat resistant super alloy suffices the following conditions: <table id="TABLE-US-00001" num="1"> <table frame="none" colsep="0" rowsep="0"> <tgroup align="left" colsep="0" rowsep="0" cols="4"> <colspec colname="OFFSET" colwidth="28PT" align="left"/> <colspec colname="1" colwidth="42PT" align="left"/> <colspec colname="2" colwidth="70PT" align="right"/> <colspec colname="3" colwidth="77PT" align="left"/> <THEAD> <ROW> <ENTRY/> <ENTRY/> </ROW> <ROW> <ENTRY/> <entry name="OFFSET" nameend="3" align="center" rowsep="1"/> </ROW> </THEAD> <TBODY VALIGN="TOP"> <ROW> <ENTRY/> <ENTRY>carbon</ENTRY> <ENTRY>0.01-0.2</ENTRY> <ENTRY>percent in weight</ENTRY> </ROW> <ROW> <ENTRY/> <ENTRY>chromium</ENTRY> <ENTRY>8-10</ENTRY> <ENTRY>percent in weight</ENTRY> </ROW> <ROW> <ENTRY/> <ENTRY>aluminum</ENTRY> <ENTRY>4-6</ENTRY> <ENTRY>percent in weight</ENTRY> </ROW> <ROW> <ENTRY/> <ENTRY>titanium</ENTRY> <ENTRY>2-4</ENTRY> <ENTRY>percent in weight</ENTRY> </ROW> <ROW> <ENTRY/> <ENTRY>molybdenum</ENTRY> <ENTRY>1.5-2.8</ENTRY> <ENTRY>percent in weight</ENTRY> </ROW> <ROW> <ENTRY/> <ENTRY>tungsten</ENTRY> <ENTRY>10-13.5</ENTRY> <ENTRY>percent in weight</ENTRY> </ROW> <ROW> <ENTRY/> <ENTRY>niobium</ENTRY> <ENTRY>1.5-2.5</ENTRY> <ENTRY>percent in weight</ENTRY> </ROW> <ROW> <ENTRY/> <ENTRY>boron</ENTRY> <ENTRY>0 < B <= 0.04</ENTRY> <ENTRY>percent in weight</ENTRY> </ROW> <ROW> <ENTRY/> <ENTRY>zircon</ENTRY> <ENTRY>0 < Zr <= 0.15</ENTRY> <ENTRY>percent in weight</ENTRY> </ROW> <ROW> <ENTRY/> <entry name="OFFSET" nameend="3" align="center" rowsep="1"/> </ROW> <ROW> <ENTRY/> <entry name="OFFSET" nameend="3" align="left">the contents of hafnium and lanthanum together amounts to 0 < Hf + La <= 1.5 percent in weight, </ENTRY> </ROW> <ROW> <ENTRY/> <entry name="OFFSET" nameend="3" align="left">optionally traces of tantalum, </ENTRY> </ROW> <ROW> <ENTRY/> <entry name="OFFSET" nameend="3" align="left">the remainder being nickel. </ENTRY> </TBODY> </TGROUP> </TABLE> </TABLES> Such an alloy is preferably used for turbine wheels and particularly for turbochargers.

IPC 8 full level
C22C 19/05 (2006.01); **F01D 5/28** (2006.01)

CPC (source: EP US)
C22C 19/057 (2013.01 - EP US); **F01D 5/28** (2013.01 - EP US); **F05C 2203/00** (2013.01 - EP US); **F05D 2300/10** (2013.01 - EP US)

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US 99599304 A 20041122; DE 502004006994 T 20041018; EP 04024768 A 20041018; JP 2004337379 A 20041122; US 10502408 A 20080417