Title (en)

HIGH TEMPERATURE RESISTANT ALLOYS

Title (de)

HOCHTEMPERATURBESTÄNDIGE LEGIERUNGEN

Title (fr)

ALLIAGES HAUTE TEMPERATURE

Publication

EP 1558776 B1 20080813 (EN)

Application

EP 03775499 A 20031030

Priority

- GB 0304665 W 20031030
- GB 0225648 A 20021104
- GB 0228576 A 20021209
- GB 0324859 A 20031024

Abstract (en)

[origin: GB2394960A] A first hafnium oxide dispersion hardened nickel-chromium-iron alloy comprising (in % by weight): Ni 15-90%, Cr 5-40 %, Hf 0.01-4.5 %, O 0.001-0.7%, C 0.01-0.7%, Si 0.01-3.0%, N 0.001-0.5%, Mn 0-2.5 %, Mo 0-3.0%, Nb 0-2.0%, Ti 0-2.0%, Zr 0-2.0%, Co 0-2.05 %, W 0-4.0 %, Ta 0-2.0 %, Al 0-15 %, wit the balance being Fe and impurities. This alloy contains at least one of Nb, Ti, W, Ta and Zr. A second hafnium oxide dispersion hardened nickel-chromium-iron alloy comprising (in % by weight): Ni 15-50%, Cr 20-40 %, Hf 0.01-4.5 %, C 0.01-0.5 %, Si 0.01-2.5 %, Mn 0-2.5 %, Mo 0-1.0 %, Nb 0-1.7 %, Ti 0-0.5 %, Zr 0-0.5 %, Co 0-2.0 %, W 0-1.0 %, Ta 0-2.0 %, Al 0-15 %, with the balance being Fe and impurities. This alloy contains at least one of Nb, Ti and Zr. The alloy is made by adding hafnium particles to a melt held in a ladle, oxidising the particles in the melt, adding aluminium if present in the alloy and then pouring.

IPC 8 full level

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CPC (source: EP GB US)

C22C 19/053 (2013.01 - EP US); **C22C 19/055** (2013.01 - EP US); **C22C 19/056** (2013.01 - EP US); **C22C 19/057** (2013.01 - EP US); **C22C 19/058** (2013.01 - EP US); **C22C 30/00** (2013.01 - EP US); **C22C 32/0026** (2013.01 - EP GB US); **C22C 33/0228** (2013.01 - EP US); **C22C 33/0285** (2013.01 - EP US); **C22C 38/002** (2013.01 - EP US); **C22C 38/02** (2013.01 - EP US); **C22C 38/04** (2013.01 - EP US); **C22C 38/40** (2013.01 - EP US); **C22C 38/44** (2013.01 - EP US); **C22C 38/48** (2013.01 - EP US); **C22C 38/50** (2013.01 - EP US)

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