

## Title (en)

HOT-DIE NI-BASED ALLOY, HOT-FORGING DIE EMPLOYING SAME, AND FORGED-PRODUCT MANUFACTURING METHOD

## Title (de)

HEISSGEPRESSTE LEGIERUNG AUF NICKELBASIS, WARMSCHMIEDEWERKZEUG DAMIT UND HERSTELLUNGSVERFAHREN FÜR GESCHMIEDETES PRODUKT

## Title (fr)

ALLIAGE À BASE DE NI POUR FILIÈRE CHAUDE, FILIÈRE DE FORGEAGE À CHAUD L'UTILISANT, ET PROCÉDÉ DE FABRICATION DE PRODUITS FORGÉS

## Publication

**EP 3719153 A4 20210407 (EN)**

## Application

**EP 18883639 A 20181129**

## Priority

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## Abstract (en)

[origin: EP3719153A1] Provided are a Ni-based alloy for hot die having a high high-temperature compressive strength and a good oxidation resistance and being capable of suppressing the deterioration in the working environment and the shape deterioration, a hot forging die using the Ni-based alloy for hot die, and a method for manufacturing a forged product using the hot forging die. The present invention provides a hot forging die comprising a Ni-based alloy for hot die comprising, in mass%, W: 7.0 to 15.0%, Mo: 2.5 to 11.0%, Al: 5.0 to 7.5%, Cr: 0.5 to 7.5%, and the balance of Ni with inevitable impurities, wherein at least 80% of a surface area of the Ni-based alloy for hot die is covered with an aluminum oxide layer. In addition to the composition, the Ni-based alloy for hot die may further comprise 7.0% or less of Ta and may further comprise one or two or more elements selected from Zr: 0.5% or less, Hf: 0.5% or less, rare-earth elements: 0.2% or less, Y: 0.2% or less, and Mg: 0.03% or less.

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## Citation (search report)

- [X] WO 2017057453 A1 20170406 - HITACHI METALS LTD [JP]
- [A] JP S6250429 A 19870305 - HITACHI METALS LTD
- [AD] JP S60221542 A 19851106 - HITACHI METALS LTD
- [E] JP 6566255 B2 20190828
- [A] EP 0460678 A1 19911211 - KOBE STEEL LTD [JP]
- [A] WO 2014126086 A1 20140821 - HITACHI METALS LTD [JP]
- See also references of WO 2019107502A1

## Designated contracting state (EPC)

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