

Title (en)

STEEL FOR HOT STAMP DIE, HOT STAMP DIE AND MANUFACTURING METHOD THEREOF

Title (de)

STAHL FÜR HEISSPRÄGESTEMPEL, HEISSPRÄGESTEMPEL UND VERFAHREN ZU SEINER HERSTELLUNG

Title (fr)

ACIER POUR MATRICE D'ESTAMPE À CHAUD, MATRICE D'ESTAMPE À CHAUD ET SON PROCÉDÉ DE FABRICATION

Publication

**EP 3981890 A4 20221005 (EN)**

Application

**EP 20818816 A 20200311**

Priority

- JP 2019106234 A 20190606
- JP 2020010562 W 20200311

Abstract (en)

[origin: EP3981890A1] A die steel which enables manufacturing a hot stamp die that has both high hardness and high thermal conductivity, a hot stamp die, and a manufacturing method thereof are provided. This steel for a hot stamp die has a component composition, in mass% of 0.45-0.65% C, 0.1-0.6% Si, 0.1-0.3% Mn, 2.5-6.0% Cr, 1.2-2.6% Mo, and 0.4-0.8% V, the remainder being Fe and unavoidable impurities. Further, this hot stamp die has the aforementioned component composition, and the manufacturing method is for manufacturing said hot stamp die.

IPC 8 full level

**C22C 38/22** (2006.01); **B21J 13/02** (2006.01); **C21D 1/06** (2006.01); **C21D 1/18** (2006.01); **C21D 1/25** (2006.01); **C21D 6/00** (2006.01); **C21D 7/13** (2006.01); **C21D 8/00** (2006.01); **C21D 9/00** (2006.01); **C22C 38/02** (2006.01); **C22C 38/04** (2006.01); **C22C 38/24** (2006.01)

CPC (source: EP KR US)

**B21D 22/022** (2013.01 - US); **C21D 1/06** (2013.01 - EP KR); **C21D 1/18** (2013.01 - EP); **C21D 1/25** (2013.01 - EP); **C21D 6/002** (2013.01 - EP KR); **C21D 7/13** (2013.01 - EP); **C21D 8/005** (2013.01 - EP); **C21D 8/0273** (2013.01 - KR); **C21D 9/0068** (2013.01 - EP US); **C22C 38/02** (2013.01 - EP US); **C22C 38/04** (2013.01 - EP US); **C22C 38/22** (2013.01 - EP KR US); **C22C 38/24** (2013.01 - EP KR US); **C23C 8/26** (2013.01 - US); **B21J 13/02** (2013.01 - EP)

Citation (search report)

- [XII] JP 2017155306 A 20170907 - SANYO SPECIAL STEEL CO LTD
- [XII] JP 2013087322 A 20130513 - SANYO SPECIAL STEEL CO LTD
- [A] CN 104928586 A 20150923 - BAOSHAN IRON & STEEL
- [A] CN 107130167 A 20170905 - BAOSTEEL SPECIAL STEEL CO LTD
- [A] JP H10298709 A 19981110 - HITACHI METALS LTD
- [A] CN 107974637 A 20180501 - PANGANG GROUP JIANGYOU CHANGCHENG SPECIAL STEEL CO LTD
- [A] CN 102605261 A 20120725 - BAOSHAN IRON & STEEL
- [A] JP H06145884 A 19940527 - HITACHI METALS LTD
- See also references of WO 2020246099A1

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

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**EP 3981890 A1 20220413**; **EP 3981890 A4 20221005**; CN 113939604 A 20220114; JP 7540437 B2 20240827; JP WO2020246099 A1 20201210; KR 20220002523 A 20220106; KR 20240042117 A 20240401; US 2022316038 A1 20221006; WO 2020246099 A1 20201210

DOCDB simple family (application)

**EP 20818816 A 20200311**; CN 202080041017 A 20200311; JP 2020010562 W 20200311; JP 2021524675 A 20200311; KR 20217038731 A 20200311; KR 20247008574 A 20200311; US 202017616197 A 20200311