

Title (en)

STEEL FOR ALLOY STRUCTURE AND MANUFACTURING METHOD THEREFOR

Title (de)

STAHL FÜR LEGIERUNGSSTRUKTUR UND VERFAHREN ZU SEINER HERSTELLUNG

Title (fr)

ACIER POUR STRUCTURES D'ALLIAGE ET PROCÉDÉ DE FABRICATION ASSOCIÉ

Publication

EP 4036266 A1 20220803 (EN)

Application

EP 20869967 A 20200927

Priority

- CN 201910920640 A 20190927
- CN 2020118043 W 20200927

Abstract (en)

Disclosed is a steel for an alloy structure, the chemical elements of the steel being, in percentage by mass: 0.35-0.45% of C, 0.27-0.35% of Si, 0.6-0.8% of Mn, 0.015-0.05% of Al, 0.06-0.1% of V, 0.2-1.0% of Zr, 0.001-0.005% of Mg, 0.025% or less of P, 0.015% or less of S, 0.005% or less of N, 0.001% or less of O, the balance being Fe and other inevitable impurities. In addition, also disclosed is a manufacturing method for the steel for an alloy structure, the method comprising steps of: (1) smelting, refining, and casting; (2) blooming and cogging; (3) secondary hot rolling to form a product; and (4) heat treatment including quenching and tempering. The steel for an alloy structure is designed by adding trace alloy elements, the steel for an alloy structure is further strengthened and toughened, and the manufacturing cost is low.

IPC 8 full level

C22C 38/04 (2006.01); **C21D 8/00** (2006.01); **C22C 38/06** (2006.01); **C22C 38/12** (2006.01); **C22C 38/14** (2006.01)

CPC (source: CN EP KR US)

C21D 1/18 (2013.01 - EP); **C21D 1/58** (2013.01 - EP); **C21D 1/60** (2013.01 - EP); **C21D 6/005** (2013.01 - EP); **C21D 6/008** (2013.01 - EP); **C21D 6/02** (2013.01 - EP); **C21D 8/005** (2013.01 - CN EP); **C21D 8/0205** (2013.01 - US); **C21D 8/0226** (2013.01 - KR US); **C21D 8/0247** (2013.01 - KR); **C21D 9/46** (2013.01 - US); **C22C 38/001** (2013.01 - EP KR US); **C22C 38/002** (2013.01 - CN EP US); **C22C 38/005** (2013.01 - EP); **C22C 38/02** (2013.01 - CN EP KR US); **C22C 38/04** (2013.01 - CN EP KR US); **C22C 38/06** (2013.01 - CN EP KR US); **C22C 38/12** (2013.01 - CN EP KR US); **C22C 38/14** (2013.01 - CN EP KR US); **C21D 2211/004** (2013.01 - EP); **C21D 2211/005** (2013.01 - EP KR US); **C21D 2211/009** (2013.01 - EP KR US)

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

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

EP 4036266 A1 20220803; **EP 4036266 A4 20230614**; CN 112575242 A 20210330; CN 112575242 B 20220624; JP 2022550358 A 20221201; JP 7443502 B2 20240305; KR 20220054862 A 20220503; US 2022349035 A1 20221103; WO 2021057954 A1 20210401; WO 2021057954 A9 20220414

DOCDB simple family (application)

EP 20869967 A 20200927; CN 201910920640 A 20190927; CN 2020118043 W 20200927; JP 2022519356 A 20200927; KR 20227010806 A 20200927; US 202017763348 A 20200927