Title (en)

SURFACE GRAIN REFINING HOT-SHEARING METHOD AND PRODUCT OF SURFACE GRAIN REFINING HOT-SHEARING

Title (de)

HEISSSCHERUNGSVERFAHREN MIT OBERFLÄCHENKORNVERFEINERUNG UND HEISSSCHERUNGSPRODUKT MIT OBERFLÄCHENKORNVERFEINERUNG

Title (fr)

PROCÉDÉ DE DÉCOUPAGE À CHAUD D'AFFINAGE DE GRAIN DE SURFACE ET PRODUIT DE DÉCOUPAGE À CHAUD D'AFFINAGE DE GRAIN DE SURFACE

Publication

EP 2995395 B1 20181031 (EN)

Application

EP 14795101 A 20140509

Priority

- JP 2013099243 A 20101222
- JP 2014062534 W 20140509

Abstract (en)

[origin: EP2995395A1] Provided is a surface layer grain refining hot-shearing method including: heating and keeping a steel sheet in a temperature range of from Ac3 to 1400°C to austenitize the steel sheet; subsequently shearing the steel sheet in a state in which the steel sheet is placed on a die; and quenching by rapidly cooling the sheared steel sheet, wherein a start temperature of the shearing is set to be a temperature (°C) obtained by adding a temperature of from 30°C to 140°C to a previously measured Ar3 of the steel sheet.

IPC 8 full level

B21D 28/24 (2006.01); **B21D 28/00** (2006.01); **C21D 1/18** (2006.01); **C21D 9/00** (2006.01); **C22C 38/00** (2006.01); **C22C 38/18** (2006.01)

CPC (source: EP KR RU US)

B21D 28/00 (2013.01 - EP KR US); **B21D 28/24** (2013.01 - EP KR US); **B21D 37/16** (2013.01 - EP KR US); **C21D 1/18** (2013.01 - EP KR US); **C21D 1/673** (2013.01 - EP KR US); **C21D 8/0263** (2013.01 - EP US); **C21D 8/1255** (2013.01 - EP KR US); **C21D 8/1261** (2013.01 - EP KR US); **C21D 8/1272** (2013.01 - EP KR US); **C21D 9/00** (2013.01 - KR); **C21D 9/46** (2013.01 - EP US); **C22C 38/00** (2013.01 - EP KR US); **C22C 38/001** (2013.01 - EP KR US); **C22C 38/008** (2013.01 - EP KR US); **C22C 38/02** (2013.01 - EP KR US); **C22C 38/04** (2013.01 - EP KR US); **C22C 38/06** (2013.01 - EP KR US); **C22C 38/18** (2013.01 - EP KR US); **C22C 38/60** (2013.01 - EP KR US); **H01F 1/16** (2013.01 - EP KR US); B21D 28/24 (2013.01 - RU); C21D 8/00 (2013.01 - RU); C21D 9/00 (2013.01 - EP US); C21D 9/46 (2013.01 - RU); C21D 2211/005 (2013.01 - EP KR US); C21D 2211/008 (2013.01 - EP KR US); C21D 2221/10 (2013.01 - EP KR US); C22C 38/00 (2013.01 - RU)

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