

Title (en)
METHOD FOR GENERATING A FLAT STEEL PRODUCT WITH AN AMORPHOUS, SEMI-AMORPHOUS OR FINE CRYSTALLINE STRUCTURE AND FLAT STEEL PRODUCT WITH SUCH STRUCTURES

Title (de)
VERFAHREN ZUM ERZEUGEN EINES STAHLFLACHPRODUKTS MIT EINEM AMORPHEN, TEILAMORPHEN ODER FEINKRISTALLINEN GEFÜGE UND DERART BESCHAFFENES STAHLFLACHPRODUKT

Title (fr)
PROCÉDÉ DESTINÉ À GÉNÉRER UN PRODUIT PLAT EN ACIER AVEC UNE STRUCTURE CRISTALLINE FINE, PARTIELLEMENT AMORPHE OU AMORPHE ET PRODUIT PLAT EN ACIER CONÇU DE LA SORTE

Publication
EP 2948572 A1 20151202 (DE)

Application
EP 14701377 A 20140124

Priority

- EP 13152793 A 20130125
- EP 2014051416 W 20140124
- EP 14701377 A 20140124

Abstract (en)
[origin: EP2759614A1] A molten steel containing 1.2-7 wt.% silicon, 0.4-4 wt.% boron, 0.5-4 wt.% carbon and 1.5-8 wt.% phosphorus, optionally containing 5 wt.% or less copper, 10 wt.% or less chromium, 10 wt.% or less aluminum, 0.5 wt.% or less nitrogen, 2 wt.% or less niobium, 3 wt.% or less manganese, 2 wt.% or less titanium, 2 wt.% or less vanadium, and remainder of iron and unavoidable impurities is cast in a casting device (2). The obtained cast strip (B) is cooled, to obtain a flat steel product having an amorphous, partially amorphous or fine crystalline structure. A molten steel containing 1.2-7 wt.% silicon, 0.4-4 wt.% boron, 0.5-4 wt.% carbon and 1.5-8 wt.% phosphorus, optionally containing 5 wt.% or less copper, 10 wt.% or less chromium, 10 wt.% or less aluminum, 0.5 wt.% or less nitrogen, 2 wt.% or less niobium, 3 wt.% or less manganese, 2 wt.% or less titanium, 2 wt.% or less vanadium, and remainder of iron and unavoidable impurities is cast in a casting device (2). The obtained cast strip (B) is cooled, to obtain a flat steel product having an amorphous, partially amorphous or fine crystalline structure. The particle size of fine crystalline microstructure is 10-10000 nm.

IPC 8 full level
C22C 38/02 (2006.01); **B22D 11/06** (2006.01); **C21D 7/13** (2006.01); **C22C 45/02** (2006.01)

CPC (source: EP US)
B22D 11/0611 (2013.01 - EP US); **B22D 11/0622** (2013.01 - EP US); **B22D 25/06** (2013.01 - US); **B22D 27/04** (2013.01 - US); **C21D 1/18** (2013.01 - EP US); **C21D 6/002** (2013.01 - EP US); **C21D 6/005** (2013.01 - EP US); **C21D 6/008** (2013.01 - EP US); **C21D 9/46** (2013.01 - EP US); **C22C 1/11** (2023.01 - US); **C22C 33/003** (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 38/06** (2013.01 - EP US); **C22C 38/20** (2013.01 - EP US); **C22C 38/24** (2013.01 - EP US); **C22C 38/26** (2013.01 - EP US); **C22C 38/28** (2013.01 - EP US); **C22C 38/32** (2013.01 - EP US); **C22C 38/34** (2013.01 - EP US); **C22C 45/02** (2013.01 - EP US); **C21D 2201/03** (2013.01 - EP US)

Citation (search report)
See references of WO 2014114756A1

Designated contracting state (EPC)
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