

Title (en)
HIGH-STRENGTH FLAT STEEL WIRE EXHIBITING SUPERIOR HYDROGEN-INDUCED CRACK RESISTANCE

Title (de)
HOCHFESTER FLACHSTAHLDRAHT MIT HERVORRAGENDER BESTÄNDIGKEIT GEGENÜBER WASSERSTOFFINDUZIERTEN SPANNUNGRISSEN

Title (fr)
FIL D'ACIER PLAT HAUTE RÉSISTANCE PRÉSENTANT UNE RÉSISTANCE SUPÉRIEURE À LA FISSURATION INDUITE PAR L'HYDROGÈNE

Publication
EP 3415654 A4 20190814 (EN)

Application
EP 17763270 A 20170307

Priority

- JP 2016043961 A 20160307
- JP 2017009081 W 20170307

Abstract (en)
[origin: EP3415654A1] A high-strength flat steel wire contains, by mass%: C: 0.25 to 0.60%; Si: greater than 0.50% and less than 2.0%; Mn: 0.20 to 1.50%; S: 0.015% or less; P: 0.015% or less; Cr: 0.005 to 1.50%; Al: 0.005 to 0.080%; N: 0.0020 to 0.0080%; and one or two of Ca: 0 to 0.0050% and Mg: 0 to 0.0050% to satisfy $[Ca] + [Mg] > 0.20 \times [S]$, with the balance composed of Fe and impurities, the high-strength flat steel wire has tensile strength of 1000 MPa or more, an average value of Hv hardness measured in a cross section perpendicular to a longitudinal direction of 320 or more and less than 450, a standard deviation ΔHv of the measured value of 15 or less, and a width/thickness ratio of not less than 1.5 nor more than 10. [Ca], [Mg], and [S] represent contents of respective elements by mass%.

IPC 8 full level
C22C 38/00 (2006.01); **C21D 6/00** (2006.01); **C21D 8/06** (2006.01); **C21D 9/52** (2006.01); **C22C 38/02** (2006.01); **C22C 38/04** (2006.01); **C22C 38/06** (2006.01); **C22C 38/20** (2006.01); **C22C 38/22** (2006.01); **C22C 38/24** (2006.01); **C22C 38/26** (2006.01); **C22C 38/28** (2006.01); **C22C 38/32** (2006.01); **C22C 38/34** (2006.01); **C22C 38/42** (2006.01); **C22C 38/54** (2006.01)

CPC (source: EP KR US)
C21D 6/002 (2013.01 - EP US); **C21D 6/005** (2013.01 - EP US); **C21D 6/008** (2013.01 - EP US); **C21D 8/065** (2013.01 - EP US); **C21D 9/525** (2013.01 - EP US); **C22C 38/001** (2013.01 - EP KR US); **C22C 38/002** (2013.01 - EP US); **C22C 38/005** (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 38/20** (2013.01 - EP US); **C22C 38/22** (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 KR US); **C22C 38/42** (2013.01 - EP US)

Citation (search report)

- [A] US 5922149 A 19990713 - MALLEN HERRERO JOSE [FR], et al
- [A] EP 0925380 A1 19990630 - INST FRANCAIS DU PETROLE [FR], et al
- [A] EP 1990436 A1 20081112 - KOBE STEEL LTD [JP]
- See references of WO 2017154930A1

Designated contracting state (EPC)
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DOCDB simple family (application)
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