

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

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

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

Publication
EP 3415654 A1 20181219 (EN)

Application
EP 17763270 A 20170307

Priority
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• JP 2017009081 W 20170307

Abstract (en)
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
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CPC (source: EP KR US)
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Designated contracting state (EPC)
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Designated extension state (EPC)
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