

[Name of Document] Abstract

[Title of the Invention] HIGH-STRENGTH FLAT STEEL WIRE
EXCELLENT IN HYDROGEN INDUCED CRACKING
RESISTANCE

5 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
10 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 σ_{Hv} of the measured value of 15 or less, and a width/thickness ratio of not less than 1.5 nor
15 more than 10. [Ca], [Mg], and [S] represent contents of respective elements by mass%.