

Title (en)
STEEL FOR HIGH-STRENGTH SPRING AND HEAT-TREATED STEEL WIRE FOR HIGH-STRENGTH SPRING

Title (de)
STAHL FÜR HOCHFESTE FEDER UND WÄRMEBEHANDELTEN STAHLDRAHT FÜR HOCHFESTE FEDER

Title (fr)
ACIER POUR RESSORTS À HAUTE RÉSISTANCE ET FIL D'ACIER TRAITÉ THERMIQUEMENT POUR RESSORTS À HAUTE RÉSISTANCE

Publication
EP 2058411 A4 20100113 (EN)

Application
EP 06823432 A 20061109

Priority
JP 2006322784 W 20061109

Abstract (en)
[origin: EP2058411A1] The present invention provides a high strength heat treated steel wire for spring having a tensile strength of 2000 MPa or more which is coiled in the cold state and can achieve both sufficient atmospheric strength and coilability and spring steel used for that steel wire, that is, a high strength heat treated steel wire for a spring characterized by comprising, by mass%, C: 0.5 to 0.9%, Si: 1.0 to 3.0%, Mn: 0.1 to 1.5%, Cr: 1.0 to 2.5%, V: over 0.15 to 1.0%, and Al: 0.005% or less, controlling N to 0.007% or less, further containing one or two of Nb: 0.001 to less than 0.01% and Ti: 0.001 to less 0.005%, and having a tensile strength of 2000 MPa or more, having cementite-based spheroidal carbides and alloy-based spheroidal carbides in a microscopic visual field satisfying an area percentage of carbides with a circle equivalent diameter of 0.2 μm or more of 7% or less and a density of carbides with a circle equivalent diameter of 1 grain/μm² or less, having a prior austenite grain size number of #10 or more, and having retained austenite of 15 mass% or less.

IPC 8 full level
C22C 38/00 (2006.01); **C22C 38/58** (2006.01)

CPC (source: EP KR)
C22C 38/02 (2013.01 - EP); **C22C 38/04** (2013.01 - EP KR); **C22C 38/06** (2013.01 - KR); **C22C 38/24** (2013.01 - EP KR); **C22C 38/34** (2013.01 - KR)

Citation (search report)

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Designated contracting state (EPC)
DE FR IT SE

DOCDB simple family (publication)
EP 2058411 A1 20090513; EP 2058411 A4 20100113; EP 2058411 B1 20140219; BR PI0607042 A2 20090804; BR PI0607042 B1 20140819; CN 101287850 A 20081015; CN 101287850 B 20110427; KR 100968938 B1 20100714; KR 20080057205 A 20080624; WO 2008056428 A1 20080515

DOCDB simple family (application)
EP 06823432 A 20061109; BR PI0607042 A 20061109; CN 200680001241 A 20061109; JP 2006322784 W 20061109; KR 20077011280 A 20061109