

Title (en)
STEEL WIRE FOR SPRING

Title (de)
STAHLDRAHT FÜR FEDER

Title (fr)
FIL D'ACIER POUR RESSORT

Publication
EP 1731625 A1 20061213 (EN)

Application
EP 05709768 A 20050204

Priority
• JP 2005001703 W 20050204
• JP 2004027891 A 20040204

Abstract (en)
The present invention provides a spring steel wire which has a tempered martensitic structure brought about by quenching-tempering. The present spring steel wire has a 40 % or higher reduction of area and a 1,000 MPa or higher shear yield stress after subjected to heat treatment for at least 2 hours at a temperature ranging from 420°C to 480°C. The present steel wire preferably constitutes, based on mass %, C: 0.50-0.75%, Si: 1.80-2.70%, Mn: 0.1-0.7%, Cr: 0.70-1.50%, Co: 0.02 - 1.00%, and remnants consisting of Fe and impurities, or constitutes, based on mass %, C: 0.50-0.75%, Si: 1.80-2.70%, Mn: over 0.7-1.50%, Cr: 0.70-1.50%, and remnants consisting of Fe and impurities.

IPC 8 full level
C22C 38/00 (2006.01); **F16F 1/02** (2006.01); **C21D 1/20** (2006.01); **C21D 1/25** (2006.01); **C21D 8/06** (2006.01); **C21D 9/52** (2006.01); **C22C 38/30** (2006.01); **C22C 38/34** (2006.01); **C22C 38/52** (2006.01); **C21D 1/18** (2006.01)

CPC (source: EP KR US)
C21D 1/18 (2013.01 - KR); **C21D 1/20** (2013.01 - EP KR US); **C21D 1/25** (2013.01 - EP KR US); **C21D 8/065** (2013.01 - EP KR US); **C21D 9/02** (2013.01 - EP KR US); **C21D 9/525** (2013.01 - KR); **C22C 38/30** (2013.01 - EP KR US); **C21D 1/18** (2013.01 - EP US); **C21D 9/525** (2013.01 - EP US); **C21D 2211/008** (2013.01 - EP KR US)

Designated contracting state (EPC)
DE FR GB IT SE

DOCDB simple family (publication)
EP 1731625 A1 20061213; **EP 1731625 A4 20120328**; **EP 1731625 B1 20191009**; CN 100449026 C 20090107; CN 1914347 A 20070214; JP 2005220392 A 20050818; JP 4357977 B2 20091104; KR 101096888 B1 20111222; KR 20060129019 A 20061214; US 2008271824 A1 20081106; WO 2005075695 A1 20050818

DOCDB simple family (application)
EP 05709768 A 20050204; CN 200580003962 A 20050204; JP 2004027891 A 20040204; JP 2005001703 W 20050204; KR 20067016315 A 20060814; US 58828705 A 20050204