Title (en)

HIGH-STRENGTH STEEL WIRE MATERIAL EXHIBITING EXCELLENT COLD-DRAWING PROPERTIES, AND HIGH-STRENGTH STEEL WIRE

Title (de)

HOCHFESTES STAHLDRAHTMATERIAL MIT HERVORRAGENDEN KALTZIEHEIGENSCHAFTEN UND HOCHFESTER STAHLDRAHT

Title (fr)

MATÉRIAU DE FIL D'ACIER DE HAUTE RÉSISTANCE QUI PRÉSENTE D'EXCELLENTES PROPRIÉTÉS D'ÉTIRAGE À FROID

Publication

EP 2980240 A4 20161109 (EN)

Application

EP 14773951 A 20140310

Priority

- JP 2013067465 A 20130327
- JP 2014056103 W 20140310

Abstract (en)

[origin: EP2980240A1] Provided are: a high-strength steel wire material which exhibits excellent cold-drawing properties and a high prescribed strength; a high-strength steel wire produced from this high-strength steel wire material; and a zinc-plated high-strength steel wire. This high-strength steel wire material is characterized by respectively including 0.80-1.3% of C, 0.1-1.5% of Si, 0.1-1.5% of Mn, more than 0% but not more than 0.03% of P, more than 0% but not more than 0.03% of S, 0.02-0.2% of Ti, 0.01-0.10% of Al, and 0.001-0.006% of N, the remainder comprising iron and unavoidable impurities. The high-strength steel wire material is further characterized in that the relationship in formula (1), namely 0.05% #¥ [Ti*] # ¥ (0.0023 [C]) (with the caveat that [Ti *] = (the total amount of Ti - the total amount of Ti in compounds having a size of at least 0.1 μm), and [C] represents the carbon content (in mass%)), is satisfied.

IPC 8 full level

C22C 38/00 (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 38/08** (2006.01); **C22C 38/12** (2006.01); **C22C 38/14** (2006.01); **C22C 38/16** (2006.01); **C22C 38/24** (2006.01); **C22C 38/26** (2006.01); **C22C 38/28** (2006.01); **C22C 38/30** (2006.01); **C22C 38/32** (2006.01); **C22C 38/54** (2006.01); **C23C 2/06** (2006.01); **C23C 2/38** (2006.01)

CPC (source: EP US)

C21D 8/065 (2013.01 - EP US); **C22C 38/001** (2013.01 - EP US); **C22C 38/002** (2013.01 - EP US); **C22C 38/02** (2013.01 - EP US); **C22C 38/04** (2013.01 - EP US); **C22C 38/06** (2013.01 - EP US); **C22C 38/08** (2013.01 - EP US); **C22C 38/12** (2013.01 - EP US); **C22C 38/14** (2013.01 - EP US); **C22C 38/16** (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 38/30** (2013.01 - EP US); **C22C 38/32** (2013.01 - EP US); **C22C 38/54** (2013.01 - EP US); **C23C 2/06** (2013.01 - EP US); **C23C 2/38** (2013.01 - EP US); C21D 8/06 (2013.01 - EP US); C21D 9/52 (2013.01 - EP US); C21D 2211/004 (2013.01 - EP US)

Citation (search report)

- [XI] CA 2812469 A1 20120503 - KOBE STEEL LTD [JP]
- [X] EP 1897964 A1 20080312 - NIPPON STEEL CORP [JP]
- [I] US 2006048864 A1 20060309 - NAGAO MAMORU [JP], et al
- [A] JP 3725576 B2 20051214
- See references of WO 2014156573A1

Designated contracting state (EPC)

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