

Title (en)
HIGH-CARBON STEEL WIRE HAVING EXCELLENT DRAWABILITY AND FATIGUE PROPERTIES AFTER DRAWING

Title (de)
STAHLDRAHT MIT HOHEM KOHLENSTOFFGEHALT SOWIE HERVORRAGENDEN ZIEHEIGENSCHAFTEN UND ERMÜDUNGSEIGENSCHAFTEN NACH DEM ZIEHEN

Title (fr)
FIL D'ACIER À HAUTE TENEUR EN CARBONE AYANT UNE EXCELLENTE APTITUDE À L'ÉTIRAGE ET D'EXCELLENTE PROPRIÉTÉS DE FATIGUE APRÈS ÉTIRAGE

Publication
EP 2682489 A4 20140820 (EN)

Application
EP 12751796 A 20120228

Priority

- JP 2011043811 A 20110301
- JP 2012054971 W 20120228

Abstract (en)
 [origin: US2013302204A1] High performance high carbon wire with refined inclusions after wire rolling, extremely low wire breakage rates at the time of drawing even in tough applications, and excellent in fatigue characteristics after wire drawing, characterized by having a predetermined composition of ingredients and in that the number ratio of inclusions satisfying (% SiO₂)=40 to 95%, (% CaO)=0.5 to 30%, (% Al₂O₃)=0.5 to 30%, (% MgO)=0.5 to 20%, and (% MnO)=0.5 to 10% and further satisfying (% Na)=0.2 to 7% and (% F)=0.17 to 8% (below, referred to as "inclusions covered due to composition") in the oxide-based nonmetallic inclusions of a short axis of 0.5 μm or more, a long axis of 1.0 μm or more, and a circle equivalent diameter (area converted to diameter) of 1 μm or more which are seen in the L direction cross-section of the wire (below, referred to as "inclusions covered due to size"), that is, the number of inclusions covered due to composition/number of inclusions covered due to size×100, is 80% or more.

IPC 8 full level
C22C 38/00 (2006.01); **C21C 7/04** (2006.01); **C21C 7/06** (2006.01); **C22C 38/06** (2006.01); **C22C 38/54** (2006.01)

CPC (source: EP KR US)
B21C 1/003 (2013.01 - EP KR US); **C21C 7/06** (2013.01 - EP US); **C22C 1/02** (2013.01 - EP US); **C22C 38/002** (2013.01 - EP KR US); **C22C 38/005** (2013.01 - EP KR 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 38/10** (2013.01 - EP KR US); **C22C 38/12** (2013.01 - EP US); **C22C 38/16** (2013.01 - EP US); **C22C 38/18** (2013.01 - EP US); **C22C 38/20** (2013.01 - EP US); **C22C 38/22** (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 38/34** (2013.01 - EP US); **C22C 38/40** (2013.01 - EP US); **C22C 38/42** (2013.01 - EP KR US); **C22C 38/44** (2013.01 - EP KR US); **C22C 38/46** (2013.01 - EP KR US); **C22C 38/48** (2013.01 - EP KR US); **C22C 38/50** (2013.01 - EP KR US); **C22C 38/52** (2013.01 - EP KR US); **C22C 38/54** (2013.01 - EP KR US)

Citation (search report)

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- [A] EP 2143812 A1 20100113 - KOBE STEEL LTD [JP]
- [A] EP 2060649 A1 20090520 - KOBE STEEL LTD [JP]
- [A] EP 2248925 A1 20101110 - KOBE STEEL LTD [JP]
- See references of WO 2012118093A1

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CN109680121A

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