

Title (en)
HIGH-STRENGTH SPRING STEEL

Title (de)
HOCHFESTER FEDERSTAHL

Title (fr)
ACIER À RESSORTS À HAUTE RÉSISTANCE

Publication
EP 2518175 B1 20190123 (EN)

Application
EP 10839395 A 20101221

Priority
• JP 2009291143 A 20091222
• JP 2010073003 W 20101221

Abstract (en)
[origin: EP2518175A1] Provided is a spring steel that contains 0.15-0.40% carbon, 1-3.5% silicon, 0.20-2.0% manganese, 0.05-1.20% chromium, at most 0.030% phosphorus, at most 0.02% sulfur, and at least one of the following: 0.005-0.10% titanium, 0.005-0.05% niobium, and at most 0.25% vanadium. The remainder of said spring steel comprises iron and unavoidable impurities. The carbon equivalent (Ceq 1) of the provided spring steel, as calculated by formula (1), is at most 0.55. $Ceq\ 1 = C + 0.108 \times Si - 0.067 \times Mn + 0.024 \times Cr - 0.05 \times Ni + 0.074 \times V$ (In the formula (1), each symbol in brackets represents the content (mass%) of the corresponding element.)

IPC 8 full level
C21D 7/06 (2006.01); **C21D 9/02** (2006.01); **C22C 38/00** (2006.01); **C22C 38/38** (2006.01); **C22C 38/58** (2006.01)

CPC (source: EP KR US)
C21D 1/02 (2013.01 - EP KR US); **C21D 7/06** (2013.01 - KR); **C21D 8/065** (2013.01 - EP US); **C21D 9/02** (2013.01 - EP KR US); **C22C 38/002** (2013.01 - EP US); **C22C 38/02** (2013.01 - EP US); **C22C 38/04** (2013.01 - EP US); **C22C 38/34** (2013.01 - EP KR US); **C22C 38/38** (2013.01 - KR); **C22C 38/42** (2013.01 - EP KR US); **C22C 38/46** (2013.01 - EP US); **C22C 38/50** (2013.01 - EP KR US); **C22C 38/54** (2013.01 - EP US); **C21D 7/06** (2013.01 - EP US)

Designated contracting state (EPC)
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