

Title (en)  
WIRE MATERIAL, STEEL WIRE, AND PROCESSES FOR PRODUCTION OF THOSE PRODUCTS

Title (de)  
DRAHTMATERIAL, STAHLDRAHT UND VERFAHREN ZUR HERSTELLUNG DIESER PRODUKTE

Title (fr)  
MATÉRIAU POUR FILS, FIL D'ACIER ET PROCÉDÉS DE PRODUCTION ASSOCIÉS

Publication  
**EP 2532764 A4 20160120 (EN)**

Application  
**EP 10838391 A 20101019**

Priority  
• JP 2010020185 A 20100201  
• JP 2010068363 W 20101019

Abstract (en)  
[origin: WO2011092905A1] A wire material comprising 0.95 to 1.30 mass% of C, 0.1 to 1.5 mass% of Si, 0.1 to 1.0 mass% of Mn, 0 to 0.1 mass% of Al, 0 to 0.1 mass% of Ti, 0 to 0.02 mass% of P, 0 to 0.02 mass% of S, 10 to 50 ppm of N, 10 to 40 ppm of O, and the remainder containing at least Fe and unavoidable impurities, wherein 97% or more of the area of a cross-sectional surface perpendicular to the length-wise direction of the wire material is occupied by a pearlite structure, and wherein both a 0.5% or less of the area of the center region of the cross-sectional surface and 0.5% or less of the area of a first surface layer region of the cross-sectional surface are occupied by a pro-eutectoid cementite structure.

IPC 8 full level  
**C22C 38/00** (2006.01); **C21D 8/06** (2006.01); **C21D 9/52** (2006.01); **C22C 38/54** (2006.01)

CPC (source: EP KR)  
**C21D 1/48** (2013.01 - EP KR); **C21D 8/06** (2013.01 - EP KR); **C21D 8/065** (2013.01 - EP KR); **C21D 9/525** (2013.01 - KR); **C22C 38/001** (2013.01 - EP KR); **C22C 38/002** (2013.01 - KR); **C22C 38/005** (2013.01 - KR); **C22C 38/02** (2013.01 - EP KR); **C22C 38/04** (2013.01 - EP KR); **C21D 9/525** (2013.01 - EP); **C21D 2211/002** (2013.01 - EP KR); **C21D 2211/009** (2013.01 - EP KR)

Citation (search report)  
• [E] WO 2011089782 A1 20110728 - NIPPON STEEL CORP [JP], et al  
• [I] JP H05295448 A 19931109 - NIPPON STEEL CORP  
• [I] JP 2939770 B2 19990825  
• [I] JP 2735647 B2 19980402  
• [I] JP 2008208450 A 20080911 - NIPPON STEEL CORP  
• [I] FABIO BORCHARDT ET AL: "CHARACTERIZATION OF THE PROEUTECTOID CEMENTITE NETWORKS OBSERVED IN THE SAE 1092 WIRE ROD STEEL GRADE", 14 October 2004 (2004-10-14), XP055235085, Retrieved from the Internet <URL:http://d-scholarship.pitt.edu/9460/1/Borchardt\_041604.pdf> [retrieved on 20151209]  
• See references of WO 2011092905A1

Cited by  
EP3366802A4; EP3282027A4; US10597748B2

Designated contracting state (EPC)  
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)  
**WO 2011092905 A1 20110804**; CN 102301024 A 20111228; CN 102301024 B 20140305; EP 2532764 A1 20121212; EP 2532764 A4 20160120; EP 2532764 B1 20190424; KR 101318009 B1 20131014; KR 20110101231 A 20110915; MX 2011008034 A 20111005

DOCDB simple family (application)  
**JP 2010068363 W 20101019**; CN 201080005987 A 20101019; EP 10838391 A 20101019; KR 20117017872 A 20101019; MX 2011008034 A 20101019