

Title (en)  
WIRE ROD AND PARTS WITH IMPROVED DELAYED FRACTURE RESISTANCE, AND METHODS FOR MANUFACTURING SAME

Title (de)  
WALZDRAHT UND TEILE MIT VERBESSERTER BESTÄNDIGKEIT GEGEN VERZÖGERTE FRAKTUR UND VERFAHREN ZUR HERSTELLUNG DAVON

Title (fr)  
FIL MACHINE ET PIÈCES AYANT UNE RÉSISTANCE À LA RUPTURE DIFFÉRÉE AMÉLIORÉE, ET LEURS PROCÉDÉS DE FABRICATION

Publication  
**EP 4265766 A1 20231025 (EN)**

Application  
**EP 21907056 A 20211214**

Priority  
• KR 20200178274 A 20201218  
• KR 2021018977 W 20211214

Abstract (en)  
Disclosed are wire rods and parts with improved delayed fracture resistance, and methods for manufacturing the same. The wire rod with improved delayed fracture resistance according to the present disclosure contains, by wt%, 0.15-0.30% of C, 0.15-0.25% of Si, 0.95-1.35% of Mn, 0.030% or less of P, 0.030% or less of S, 0.015-0.030% of Ti, 0.0010-0.0040% of B, 0.0010-0.0080% of N, and Fe and inevitable impurities as the balance, and satisfies formula 1.  $2.0 \leq 5.5 \times \text{Si} + \text{Mn} \leq 2.4$  (In formula 1, [Si] and [Mn] represent the contents (wt%) of the corresponding elements.)

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 38/14** (2006.01)

CPC (source: EP KR US)  
**C21D 1/25** (2013.01 - EP); **C21D 1/32** (2013.01 - EP); **C21D 8/065** (2013.01 - EP KR US); **C21D 9/0093** (2013.01 - EP); **C21D 9/52** (2013.01 - KR); **C21D 9/525** (2013.01 - EP US); **C22C 38/001** (2013.01 - EP KR US); **C22C 38/002** (2013.01 - EP US); **C22C 38/02** (2013.01 - EP KR US); **C22C 38/04** (2013.01 - KR US); **C22C 38/14** (2013.01 - EP KR US); **C21D 2211/001** (2013.01 - EP KR US); **C21D 2211/008** (2013.01 - EP KR US)

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

Designated extension state (EPC)  
BA ME

Designated validation state (EPC)  
KH MA MD TN

DOCDB simple family (publication)  
**EP 4265766 A1 20231025**; CN 116783316 A 20230919; JP 2024500152 A 20240104; KR 102492644 B1 20230130; KR 20220087847 A 20220627; US 2024060162 A1 20240222; WO 2022131752 A1 20220623

DOCDB simple family (application)  
**EP 21907056 A 20211214**; CN 202180090890 A 20211214; JP 2023537438 A 20211214; KR 20200178274 A 20201218; KR 2021018977 W 20211214; US 202118268061 A 20211214