

Title (en)
HIGH-DUCTILITY HIGH-CARBON STEEL WIRE

Title (de)
STARK DEHNBARER HARTSTAHL DRAHT

Title (fr)
FIL D'ACIER À TENEUR ÉLEVÉE EN CARBONE ET DE GRANDE DUCTILITÉ

Publication
EP 2025769 A4 20100818 (EN)

Application
EP 07744836 A 20070531

Priority
• JP 2007061497 W 20070531
• JP 2006153303 A 20060601

Abstract (en)
[origin: EP2025769A1] A high-carbon steel wire rod of high ductility for steel cord and the like is provided that experiences little breakage during drawing. The high-carbon steel wire rod of high ductility is a high-carbon steel wire rod fabricated by hot rolling that has a carbon content of 0.7 mass% or greater, wherein 95% or greater of the wire rod metallographic structure is pearlite structure and the maximum pearlite block size of pearlite at the core of the hot-rolled wire rod is 65 μm or less. The high-carbon steel wire rod of high ductility has a tensile strength in a range of $\{248 + 980 \times (\text{C mass}\%) \} \pm 40 \text{ MPa}$ and a reduction of area of $\{72.8 - 40 \times (\text{C mass}\%) \}$ % or greater. The high-carbon steel wire rod of high ductility is characterized in that the average pearlite block size at the core of the hot-rolled wire rod constituted by ferrite grain boundaries of an orientation difference of 9 degrees or greater as measured with an EBSD analyzer is 10 μm or greater and 30 μm or less.

IPC 8 full level
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B21B 1/16 (2013.01 - EP US)

Citation (search report)
• [E] JP 2007131944 A 20070531 - NIPPON STEEL CORP
• [E] EP 1900837 A1 20080319 - NIPPON STEEL CORP [JP]
• [E] EP 2090671 A1 20090819 - NIPPON STEEL ENGINEERING CORP [JP]
• [L] EP 2062991 A1 20090527 - NIPPON STEEL CORP [JP]
• See references of WO 2007139234A1

Citation (examination)
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