Title (en)

Method for producing high-carbon steel wire rod.

Title (de)

Verfahren zum Herstellen von Hartstahldraht.

Title (fr)

Procédé pour fabriquer du fil machine en acier dur.

Publication

**EP 0169827 A1 19860129 (FR)**

Application

**EP 85870099 A 19850718**

Priority

LU 85475 A 19840723

Abstract (en)

[origin: US4704166A] In the production of medium carbon steel wire rod, upon leaving the hot rolling mill, the rod is cooled in two phases. The first phase is operative as the rod moves at end-of-rolling speed along a cooling line disposed between the finishing block and feed rollers disposed at the entry of a head for placing the rod in overlapping turns on a conveyor, the cooling line being continuous-i.e. being devoid of air cooling breaks between consecutive intensive cooling sections, the length and capacity of the cooling line being such that the surface temperature of the rod at the end of the first phase is between, on the one hand, the start-of-martensitic-transformation temperature for the particular steel concerned and, on the other hand, the latter temperature plus 200 DEG C. The second cooling phase is operative upon the rod once it has been placed in overlapping non-concentric turns on the conveyor, the time which elapses between the end of the first phase and the start of the second phase being less than the time needed for the percentage of transformed austenite to exceed 5%. Austenite transformation is at least 95% at the departure from the second phase.

Abstract (fr)

A la sortie du laminoir à chaud, on applique au fil: - une première phase de refroidissement intense continu en (3) et en (5), entre le bloc finisseur (1) et l'entrée de la tête de dépose (6) du fil en spires; la longueur (L1 + L2) et la puissance de la ligne sont réglées de telle manière que la température superficielle du fil à la fin de cette première phase soit comprise entre Ms et (Ms + 200°C); - une seconde phase de refroidissement en (8) dès sa mise en spires étalées non concentriques sur le convoyeur (7), le délai de temps entre la fin de la première phase et le début de la seconde phase est inférieur à celui pour lequel le pourcentage d'austénite transformée dépasse 5 %. La proportion d'austénite transformée est d'au moins 95 % à la sortie de la seconde phase.

IPC 1-7

**C21D 9/573**; C21D 9/52; B21B 45/02

IPC 8 full level

**B21B 45/02** (2006.01); **B21C 47/26** (2006.01); **C21D 9/52** (2006.01); **C21D 9/573** (2006.01)

CPC (source: EP US)

**B21B 45/0224** (2013.01 - EP US); **B21C 47/262** (2013.01 - EP US); **C21D 9/525** (2013.01 - EP US); **C21D 9/5732** (2013.01 - EP US)

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