

Title (en)

Cooling device for hot rolled elongate laminated products.

Title (de)

Vorrichtung zum Kühlen langer laminierter Warmwalzprodukte.

Title (fr)

Dispositif de refroidissement de produits longs laminés en défilement.

Publication

EP 0020246 A1 19801210 (FR)

Application

EP 80400715 A 19800521

Priority

FR 7914383 A 19790601

Abstract (en)

1. A cooling device for continuously rolled elongated products, comprising a water injection head (11) located between two aligned cooling tubes (2, 4) through which pass a thin layer of water, with the product continuously travelling between said tubes, device according to which said injection head (1) obtaining a watertight connection between said tubes at one of their ends, is made up of two coaxial tubular parts (12, 13), conically fitting into each another, each of said parts showing a central passage for the continuously travelling product, and both parts defining between them, for the introduction of water, an annular chamber (20) extending into an annular slit (23) provided between two frusto-conical bearings of the tubular parts, respectively male (15) and female (16) respectively provided on inner tubular part (12) and in outer tubular part (13), said slit having adjustable length and width by axial sliding of inner part (12) in outer part (13), a device in which, with respect to the direction of continuous running of the product to be cooled, the outer part (13) provided with the female frusto-conical bearing (16) is connected to the downstream tube (2), the inner part (12) provided with the male frusto-conical bearing (15), being connected to the upstream tube (4) so that is obtained, on the one hand, in downstream tube (2), a main rate of flow of water in the direction of travelling of the product to be cooled and, on the other hand, in upstream tube (4), a secondary flow of water opposite to said direction, the axial sliding of inner part (12) in outer part (13) being obtained by a cooperation of two sliding bearings and two tightening bearings perpendicularly arranged to the sliding bearings ; one (21) of the sliding bearings being provided on the outer surface of the inner part (12), characterized in that the other sliding bearing (22) is provided on the inner surface of outer part (13), and in that said tightening bearings are made up respectively by an annular ring (25) or (29, 32) provided on inner part (12) and by a shoulder (26) or (26') of outer part (13).

Abstract (fr)

Une tête d'injection d'eau (1), raccorde de façon étanche deux tubes de refroidissement (2, 4) parcourus par une lame d'eau, et deux séparateurs (3, 5) reliés à chacun des tubes. Les tubes de refroidissement sont disposés respectivement en amont et en aval de la tête d'injection, par rapport au sens de défilement du produit, le produit et l'eau circulant à co-courant dans le tube aval (2) et à contre-courant dans le tube amont (4). Le rapport des débits dans chacun des tubes est contrôlé par réglage d'une fente, prévue dans la tête d'injection (1). Application au refroidissement des produits longs et au traitement thermique des barres et des ronds à béton.

IPC 1-7

B21B 45/02

IPC 8 full level

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CPC (source: EP)

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Citation (search report)

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