

Title (en)

Control method for continuous skinpass rolling of metal strip

Title (de)

Regelungsverfahren für kontinuierliches Nachwalzen von Stahlband

Title (fr)

Procédé de pilotage d'une opération d'écrouissage en continu d'une bande métallique

Publication

EP 0928644 A1 19990714 (FR)

Application

EP 99400036 A 19990108

Priority

FR 9800214 A 19980113

Abstract (en)

The strip passes through an upstream reduction rolling mill cage (2) and a downstream cage (3). The tightening force of the upstream cage (2) is regulated as a function of the tension between the two cages (2, 3), the response time for this regulation being chosen to be very much greater than the response time for the speed of regulation. The strip passes through an upstream reduction rolling mill cage (2) and a downstream cage (3). The speed of the upstream cage (2) is regulated with respect to the downstream cage (3) as a function of the rate of elongation caused by the upstream cage (2). The tightening force of the upstream cage (2) is regulated as a function of the tension between the two cages (2, 3), the response time for this regulation being chosen to be very much greater than the response time for the speed of regulation.

Abstract (fr)

Procédé dans lequel : on fait passer la dite bande dans deux cages de laminage successives, une cage amont (2) de réduction et une cage aval (3), on règle la vitesse de la cage amont (2) par rapport à celle de la cage aval (3) en fonction du taux d'allongement apporté par la cage (2); on règle la force de serrage de la cage (2) en fonction de la tension entre les cages (2) et (3), le temps de réponse pour le réglage de la force de serrage étant choisi très supérieur au temps de réponse pour le réglage de la vitesse. Avantages : régulation très « robuste » - très grande stabilité de l'allongement et de l'épaisseur de la bande. <IMAGE>

IPC 1-7

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IPC 8 full level

B21B 37/56 (2006.01); **B21B 1/22** (2006.01)

CPC (source: EP US)

B21B 37/56 (2013.01 - EP US); **B21B 2001/228** (2013.01 - EP US)

Citation (search report)

- [A] US 3820365 A 19740628 - SILVA A
- [A] FR 2584631 A1 19870116 - MITSUBISHI ELECTRIC CORP [JP]
- [A] PATENT ABSTRACTS OF JAPAN vol. 012, no. 157 (M - 696) 13 May 1988 (1988-05-13)
- [A] AEBERLI K: "NEW ALUMINIUM COLD ROLLING MILL IN JAPAN PRODUCES TOP-QUALITY CAN SHEET", ENGINEERING AND AUTOMATION, vol. 16, no. 6, 1 November 1994 (1994-11-01), pages 20 - 23, XP000506348
- [A] YUJI SHIMOYAMA ET AL: "KAWASAKI STEEL CONTINUOUS ANNEALING LINE AT CHIBA", IRON AND STEEL ENGINEER, vol. 69, no. 11, 1 November 1992 (1992-11-01), pages 35 - 41, XP000336359
- [A] SILVY-LELIGOIS C: "REGULATION D'ALLONGEMENT EN DOUBLE REDUCTION A SOLLAC BASSE -INDRE*", CAHIERS D'INFORMATIONS TECHNIQUES DE LA REVUE DE METALLURGIE, vol. 89, no. 12, 1 December 1992 (1992-12-01), pages 1101 - 1109, XP000354225
- [A] PATENT ABSTRACTS OF JAPAN vol. 015, no. 333 (M - 1150) 23 August 1991 (1991-08-23)
- [A] PATENT ABSTRACTS OF JAPAN vol. 017, no. 120 (M - 1379) 12 March 1993 (1993-03-12)
- [A] PATENT ABSTRACTS OF JAPAN vol. 007, no. 044 (M - 195) 22 February 1983 (1983-02-22)

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