

Title (en)

PROCESS FOR THE PRODUCTION OF LOW-RESIDUAL-STRESS ROLLED STRIP.

Title (de)

VERFAHREN ZUR ERZEUGUNG VON EIGENSPANNUNGSARMEM BAND BEIM WALZEN.

Title (fr)

PROCEDE DE FABRICATION D'UN FEUILLARD A FAIBLE CONTRAINTE INTERNE PAR LAMINAGE.

Publication

EP 0532560 B1 19940413

Application

EP 91910160 A 19910605

Priority

- DD 34128290 A 19900605
- DE 9100484 W 19910605

Abstract (en)

[origin: WO9118688A1] The invention concerns the production of low-residual-stress strip and is applicable to the metal-forming field. The invention proposes that, during rolling, the gap between the finishing rolls is adjusted in n strip elements by adjustment means by an amount DELTA Si, although the number n of measurement zones does not necessarily have to be equal to the number of adjustment zones. The adjustment amounts DELTA Si for the individual strip elements, including the no-slip point, are continuously determined by determining, before or at the beginning of the roll pass, the mean pass reduction ϵ and Δh_{ges} and the reduction value ϵ and $\Delta h_{k,k}$ characteristic of the reduction from the no-slip point to the exit side of the roll gap. The quotient of these two parameters, ϵ and Δh_{ges} / ϵ and $\Delta h_{k,k}$, gives, following multiplicative combination with the final thickness h1, a constant quantity valid for the particular roll pass. Multiplicative combination of this constant quantity with the instantaneous strip elongation or contraction values DELTA $\epsilon_{i,i}$, obtained for the particular strip element i from the stress measurement device gives the adjustment amounts DELTA Si necessary for control of the fine adjustment of the roll gap contour by the adjustment means.

IPC 1-7

B21B 37/00

IPC 8 full level

B21B 37/28 (2006.01)

CPC (source: EP US)

B21B 37/28 (2013.01 - EP US)

Citation (examination)

- NEUE HÜTTE, vol. 20, issue 4, April 1975, (Berlin, DE9, E. KÖPSTEIN et al.: "über die örtliche Breitung beim Kaltwalzen breiter Bänder", pages 226-228
- NEUE HÜTTE, vol. 26, issue 3, March 1981, (Berlin, DE9, A: KNAUSCHNER : "Ein Berechnungsverfahren für den mittleren Umformwiderstand K_{wm} beim Flachwalzen", pages 94-99.

Designated contracting state (EPC)

BE DE FR LU NL

DOCDB simple family (publication)

WO 9118688 A1 19911212; AU 7972891 A 19911231; DD 294883 A5 19911017; DE 59101395 D1 19940519; EP 0532560 A1 19930324; EP 0532560 B1 19940413; US 5365761 A 19941122

DOCDB simple family (application)

DE 9100484 W 19910605; AU 7972891 A 19910605; DD 34128290 A 19900605; DE 59101395 T 19910605; EP 91910160 A 19910605; US 96045693 A 19930205