

Title (en)

Process for continuously annealing of a cold rolled steel strip.

Title (de)

Verfahren zur kontinuierlichen Wärmebehandlung eines kaltgewalzten Stahlbandes.

Title (fr)

Procédé pour le traitement thermique en continu d'une bande en acier laminée à froid.

Publication

**EP 0032583 A1 19810729 (EN)**

Application

**EP 80108148 A 19801222**

Priority

- JP 16682679 A 19791224
- JP 16682779 A 19791224

Abstract (en)

The present invention involves a concept of combining the following: using instead of a direct fired furnace a radiation heating furnace, thereby preventing the formation of an appreciable oxide layer during the stages for heating to and holding within the requisite annealing temperature range; cooling the annealed steel strip by a cooling medium consisting of a mixture of gas and liquid, and; removing the oxide film formed during the cooling stage, by means of pickling at the final step. In the present invention it is possible to eliminate the surface-quality problems caused by conventional processes and simultaneously to omit the reheating for overaging of the steel strip.

IPC 1-7

**C21D 9/52**

IPC 8 full level

**C21D 9/52** (2006.01)

CPC (source: EP)

**C21D 9/52** (2013.01)

Citation (search report)

- [A] DE 2061726 B2 19780119
- [A] DE 2133411 B2 19750703
- [A] DE 2159597 B2 19750807
- [A] DE 2401381 B2 19750220
- [A] PATENTS ABSTRACTS OF JAPAN Vol. 1, No. 4, 10 March 1977 page 46C76 & JP-A-51 112413.
- [A] PATENTS ABSTRACTS OF JAPAN Vol. 1, No. 64, 22 June 1977 page 995C77 & JP-A-52 028411.
- [AD] PATENTS ABSTRACTS OF JAPAN Vol. 2, No. 59, 27 April 1978 page 431C78 & JP-A-53 017518.
- [A] PATENTS ABSTRACTS OF JAPAN Vol. 3, No. 7, 24 January 1979 page 60C34 & JP-A-53 130219.
- [A] PATENTS ABSTRACTS OF JAPAN Vol. 3, No. 7, 24 January 1979 page 160C34 & JP-A-53 132418.
- [AP] PATENTS ABSTRACTS OF JAPAN Vol. 4, No. 22, 23 February 1980 page 128C74 & JP-A-54 162614.
- [AP] PATENTS ABSTRACTS OF JAPAN Vol. 4, No. 38, 27 March 1980 page 50C4 & JP-A-55 011155.

Cited by

CN112111638A; EP0157708A3; EP0049729A1; FR2562563A1; CN112593051A; CN115058582A

Designated contracting state (EPC)

BE DE FR GB IT NL SE

DOCDB simple family (publication)

**EP 0032583 A1 19810729; EP 0032583 B1 19840801**; BR 8008511 A 19810721; CA 1152870 A 19830830; DE 3068827 D1 19840906

DOCDB simple family (application)

**EP 80108148 A 19801222**; BR 8008511 A 19801223; CA 367063 A 19801218; DE 3068827 T 19801222