

Title (en)

Process for preventing adhesion of steel band during annealing

Title (de)

Verfahren zum Vermeiden von Klebern beim Glühen von Kaltband

Title (fr)

Procédé pour éviter le collage de bande d'acier pendant le recuit

Publication

**EP 0760396 B1 20020130 (DE)**

Application

**EP 96108286 A 19960524**

Priority

DE 19531447 A 19950826

Abstract (en)

[origin: US5785773A] When cold strip is annealed, diffusion welds, so-called stickers, frequently form on the strip surface. In order to avoid these, the cold strip, above 600 DEG C. (holding time) is coated by oxidation with a thin surface film which prevents the sticking together. Below 600 DEG C., during the cooling phase, this surface film is removed again by reduction. In the case of a protective gas comprising a hydrogen content greater than 5%, remainder nitrogen, carbon dioxide is preferably added as oxidizing agent. The process is controlled via a defined oxygen partial pressure. The reduction is performed via the hydrogen.

IPC 1-7

**C21D 1/70**

IPC 8 full level

**C21D 1/68** (2006.01); **C21D 1/70** (2006.01); **C21D 1/76** (2006.01); **C21D 9/52** (2006.01); **C21D 9/67** (2006.01)

CPC (source: EP US)

**C21D 1/70** (2013.01 - EP US); **C21D 9/67** (2013.01 - EP US); **C21D 1/76** (2013.01 - EP US)

Citation (examination)

- US 1815505 A 19310721 - GUTHRIE ROBERT G, et al
- FR 666903 A 19291008
- "Gas, Warme-international", Band 33 (1984), Heft 10, Oktober, Seiten 490-497.

Cited by

EP3575008A1; WO2019228985A1

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AT BE DE FR GB IT LU

DOCDB simple family (publication)

**US 5785773 A 19980728**; AT E212678 T1 20020215; BR 9603545 A 19980519; CA 2183089 A1 19970227; CA 2183089 C 20061031; CZ 247996 A3 19970312; CZ 292244 B6 20030813; DE 19531447 A1 19970227; DE 59608666 D1 20020314; EP 0760396 A1 19970305; EP 0760396 B1 20020130; EP 0760396 B2 20050323; MX 9603468 A 19970731; SK 108896 A3 19970305; SK 282593 B6 20021008

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**US 69992596 A 19960820**; AT 96108286 T 19960524; BR 9603545 A 19960823; CA 2183089 A 19960809; CZ 247996 A 19960821; DE 19531447 A 19950826; DE 59608666 T 19960524; EP 96108286 A 19960524; MX 9603468 A 19960816; SK 108896 A 19960822