

Title (en)

Method of box-annealing steel sheet to minimize annealing stickers.

Title (de)

Verfahren zum Verringern des Klebens von Stahlblechen beim Kastenglühen.

Title (fr)

Procédé pour réduire le collage des tôles en acier pendant le recuit en caisse.

Publication

EP 0094808 A1 19831123 (EN)

Application

EP 83302724 A 19830513

Priority

US 37804782 A 19820514

Abstract (en)

In the box annealing of steel sheet, the tendency for adjacent wraps of the sheet to pressure weld (stick) is decreased or eliminated by passing the sheet, prior to annealing, through a rinse containing from 1,500 to 10,000 ppm of the magnesium or calcium salts of soluble carboxylic acids, preferably formates. Further benefits are realized if the sheet is electro-cleaned with a silicate containing cleaning solution, and thereafter rinsed in the formate solution whereby the latter acts to fix the concentration of silicates remaining on the surface of the sheet.

IPC 1-7

C21D 1/70; **C21D 1/74**

IPC 8 full level

C21D 9/663 (2006.01); **C21D 1/26** (2006.01); **C21D 1/70** (2006.01); **C21D 9/46** (2006.01)

CPC (source: EP KR)

C21D 1/26 (2013.01 - KR); **C21D 1/70** (2013.01 - EP); **C21D 9/46** (2013.01 - EP)

Citation (search report)

- [A] US 2076793 A 19370413 - SALENDER LAMBERT A
- [A] US 2124446 A 19380719 - DETWILER JAMES G
- [A] US 3919000 A 19751111 - YARRINGTON ROBERT WARREN
- [A] DE 2436685 A1 19750220 - PENNWALT CORP
- [A] GB 1574323 A 19800903 - NIPPON STEEL CORP
- [A] BE 889231 A 19811001 - CENTRE RECH METALLURGIQUE

Cited by

KR101137094B1

Designated contracting state (EPC)

BE DE FR GB IT NL

DOCDB simple family (publication)

EP 0094808 A1 19831123; **EP 0094808 B1 19851121**; AU 1453883 A 19831117; BR 8302507 A 19840117; CA 1198708 A 19851231; DE 3361283 D1 19860102; ES 522379 A0 19840501; ES 8404713 A1 19840501; JP S5953635 A 19840328; KR 840004790 A 19841024

DOCDB simple family (application)

EP 83302724 A 19830513; AU 1453883 A 19830513; BR 8302507 A 19830513; CA 427899 A 19830511; DE 3361283 T 19830513; ES 522379 A 19830513; JP 8288983 A 19830513; KR 830002072 A 19830513