

Title (en)
DUAL PHASE STEEL STRIP SUITABLE FOR GALVANIZING

Title (de)
FÜR DAS GALVANISIEREN GEEIGNETES ZWEIPHASENSTAHLBAND

Title (fr)
FEUILLARD ACIER A PHASE DUALE CONVENANT POUR LA GALVANISATION

Publication
EP 1682686 A4 20070627 (EN)

Application
EP 04752656 A 20040517

Priority

- US 2004015675 W 20040517
- US 0335095 W 20031104

Abstract (en)
[origin: WO2005047550A1] Dual phase steel sheet is made using a time/temperature cycle including a soak at about AC1+45°F to AC1+135°F and a hold at 850-940F, where the steel has the composition in weight percent, carbon: 0.02-0.20; aluminum: 0.010-0.150; titanium: 0.01 max; silicon: 0.5 max; phosphorous: 0.060 max; sulfur: 0.030 max; manganese: 0.8-2.40; chromium: 0.03-1.50; molybdenum: 0.03 -1.50; with the provisos that the amounts of manganese, chromium and molybdenum have the relationship: (Mn + 6Cr + 10 Mo) = at least 3.5%. The sheet is preferably in the form of a strip suitable for coating in a continuous galvanizing or galvannealing line, and the product is predominantly ferrite and martensite. The strip may be galvanized or galvannealed at a temperature within thirty degrees F of the temperature of the bath.

IPC 8 full level
C21D 6/00 (2006.01); **C21D 1/18** (2006.01); **C21D 9/52** (2006.01); **C23C 2/02** (2006.01); **C23C 2/06** (2006.01); **C23C 2/26** (2006.01); **C23C 2/28** (2006.01); **C21D 8/02** (2006.01)

CPC (source: EP US)
C21D 1/185 (2013.01 - EP); **C21D 9/52** (2013.01 - EP); **C23C 2/0224** (2022.08 - EP US); **C23C 2/06** (2013.01 - EP); **C23C 2/28** (2013.01 - EP US); **C23C 2/29** (2022.08 - EP US); **C21D 8/0278** (2013.01 - EP); **C21D 2211/005** (2013.01 - EP); **C21D 2211/008** (2013.01 - EP)

Citation (search report)

- [E] WO 2004048634 A1 20040610 - UEC TECHNOLOGIES LLC [US]
- [X] US 6440584 B1 20020827 - NAGATAKI YASUNOBU [JP], et al
- [X] US 6586117 B2 20030701 - NOMURA SHIGEKI [JP], et al
- [DA] US 6312536 B1 20011106 - OMIYA YOSHINOBU [JP], et al
- [A] EP 1338667 A1 20030827 - KAWASAKI STEEL CO [JP]
- See references of WO 2005047550A1

Designated contracting state (EPC)
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PL PT RO SE SI SK TR

DOCDB simple family (publication)
WO 2005047550 A1 20050526; AU 2004289949 A1 20050526; AU 2004289949 B2 20110428; CA 2544382 A1 20050526; CA 2544382 C 20100406; EP 1682686 A1 20060726; EP 1682686 A4 20070627; EP 1682686 B1 20141112; ES 2530066 T3 20150226; PL 1682686 T3 20150430; PL 210446 B3 20120131; PL 379761 A1 20061113

DOCDB simple family (application)
US 2004015675 W 20040517; AU 2004289949 A 20040517; CA 2544382 A 20040517; EP 04752656 A 20040517; ES 04752656 T 20040517; PL 04752656 T 20040517; PL 37976104 A 20040517