

Title (en)

IRON-ZINC ALLOY PLATED STEEL SHEET HAVING TWO PLATING LAYERS AND EXCELLENT IN ELECTROPAINTABILITY AND PRESS-FORMABILITY

Publication

EP 0480355 A3 19920902 (EN)

Application

EP 91117059 A 19911007

Priority

JP 27017190 A 19901008

Abstract (en)

[origin: EP0480355A2] An iron-zinc alloy plated steel sheet having two plating layers and excellent in electropaintability and press-formability, which comprises; a steel sheet; an alloying-treated iron-zinc alloy dip-plating layer as a lower layer formed on at least one surface of the steel sheet; and an iron-zinc alloy electroplating layer as an upper layer, formed on the iron-zinc alloy dip-plating layer. The iron content in the iron-zinc alloy dip-plating layer is from 7 to 15 wt.%, and the plating weight of the iron-zinc alloy dip-plating layer is from 30 to 120 g/m² per surface of the steel sheet. The iron content in the iron-zinc alloy electroplating layer is at least 60 wt.%. The iron-zinc alloy electroplating layer has a plurality of dots of another iron-zinc alloy; the iron content in each of the plurality of dots of another iron-zinc alloy is under 60 wt.%; the total exposed area per unit area of the plurality of dots of another iron-zinc alloy is from 5 to 50% of the unit area of the iron-zinc alloy electroplating layer; the diameter of each of the plurality of dots of another iron-zinc alloy is from 1 to 100 μm; and the total plating weight of the iron-zinc alloy electroplating layer and the plurality of dots of another iron-zinc alloy is from 1 to 10 g/m² per surface of the steel sheet.

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IPC 8 full level

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CPC (source: EP KR US)

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Citation (search report)

- [A] US 4329402 A 19820511 - HYNER JACOB, et al
- [A] PATENT ABSTRACTS OF JAPAN vol. 14, no. 390 (C-751)(4333) 23 August 1990 & JP-A-2 145 778 (KOBE STEEL) 5 June 1990
- [A] PATENT ABSTRACTS OF JAPAN vol. 009, no. 188 7 September 1983 & JP-A-60 056 090 (KOBE SEIKOSHO) 1 April 1985

Cited by

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EP 0480355 A2 19920415; **EP 0480355 A3 19920902**; **EP 0480355 B1 19950208**; CA 2052112 A1 19920409; CA 2052112 C 19970909; DE 69107270 D1 19950323; DE 69107270 T2 19950713; JP 2536271 B2 19960918; JP H04147992 A 19920521; KR 920008223 A 19920527

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