Title (en)

Inorganic functional coating on hot-dip galvanised steel

Title (de)

Anorganische Funktionsschicht auf feuerverzinktem Stahl als Umformhilfe

Title (fr)

Couche fonctionnelle anorganique sur de l'acier galavanisé à chaud

Publication

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Application

EP 13004572 A 20130919

Priority

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Abstract (en)

[origin: WO2015039762A1] The invention relates to a method for time-saving production of a galvanized steel sheet (1) having a forming aid layer consisting of at least one inorganic functional layer (2). To this end, an aqueous saline-free solution (L) or suspension consisting of a carbonate supplier or of a carbonate supplier and a hydroxide supplier is produced, wherein the carbonate supplier is selected from among ammonium hydrogen carbonate, ammonium carbonate, alkali metal hydrogen carbonates, alkali metal carbonates and alkali metal carboxylates, and the hydroxide supplier is selected from among alkali metal hydroxides, alkali metal oxides, alkali metal alcoholates, magnesium hydroxides and magnesium oxide. The concentration of the carbonate supplier is selected in a range from 1 to 5 % by weight based on the total weight of the solution (L) or suspension, and the pH value of the solution (L) or suspension is set in a range from 8 to 12. Then the aqueous solution (L) or suspension is applied to at least one side of the galvanized steel sheet (1) and a wet film (2') having a thickness of 1 to 20 µm is generated. Said wet film is dried without previous rinsing, wherein the resulting dry substance has a layer weight of 25 to 200 mg/m2 surface: In this case a conversion layer of zinc and zinc salts (2), which are at least partially carbonates, is obtained as an inorganic functional layer (2). The invention further relates to a galvanized steel sheet (1) having a forming aid layer, and to the use thereof.

IPC 8 full level

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Cited by

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