

Title (en)  
STEEL SURFACE-MODIFIED STRUCTURE FORMED USING ZINC-NICKEL INFILTRATION LAYER, AND METHOD FOR FABRICATION THEREOF

Title (de)  
MIT ZINK-NICKEL-INFILTRATIONSSCHICHT GEBILDETE OBERFLÄCHENMODIFIZIERTE STAHLSTRUKTUR UND VERFAHREN ZU DEREN HERSTELLUNG

Title (fr)  
STRUCTURE D'ACIER MODIFIÉE EN SURFACE FORMÉE À L'AIDE D'UNE COUCHE D'INFILTRATION DE ZINC-NICKEL ET PROCÉDÉ DE FABRICATION DE CETTE STRUCTURE

Publication  
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Application  
**EP 17840863 A 20170630**

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Abstract (en)  
[origin: EP3502303A1] The present disclosure provides a surface modified steel member with anti-corrosion properties formed by nickel and zinc penetration. The surface modified steel member includes alloy structures with anti-corrosion properties formed on a steel substrate. The surface modified steel member, from outside to inside, includes an alloy deposition layer and a metallic diffusion layer. The steel substrate is made of low-carbon steel or low-carbon alloy steel. The alloy deposition layer includes zinc ferrum alloys. The metallic diffusion layer includes pearlite crystals, ferrite crystals, and quenching and tempering structures. The surface modified steel material have good anti-corrosion properties, which generates no red rust after 500-6000 hours in a neutral salt spray test, and also generates no red rust after 120-240 hours in a sulfur dioxide test, thus can reduce the losses caused by steel corrosion. The present disclosure further provides a method for making the surface modified steel member formed by nickel and zinc penetration.

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Citation (search report)  
• [I] CN 101319300 A 20081210 - CHONGQING DAYOU SURFACE TECHNO [CN]  
• [A] CN 102777468 A 20121114 - CHONGQING DAYOU SURFACE TECHNOLOGY CO LTD  
• [A] CN 105839047 A 20160810 - FUJIAN DATONG RAILWAY PREC EQUIPMENT CO LTD  
• See references of WO 2018032887A1

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