

Title (en)

METHOD OF FORMING AN ELECTROLYTIC BATH FOR MAKING A PLATINUM-BASED METALLIC UNDERLAYER ON A METALLIC SUBSTRATE

Title (de)

VERFAHREN ZUR HERSTELLUNG EINES GALVANISCHEN BADES FÜR DIE REALISIERUNG EINER AUS PLATIN BASIERTEN METALLISCHEN UNTERSCHICHT AUF EIN METALLISCHEN SUBSTRAT

Title (fr)

PROCÉDÉ DE FABRICATION D'UN BAIN ÉLECTROLYTIQUE POUR LA RÉALISATION D'UNE SOUS-COUCHE MÉTALLIQUE À BASE DE PLATINE SUR UN SUBSTRAT MÉTALLIQUE.

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Application

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Abstract (en)

[origin: WO2013156737A1] The invention relates to a process for manufacturing an electrolytic bath for the production of a platinum-based metallic sublayer on a metallic substrate, which comprises the following steps: a) a first system comprising ligands and amine functional groups is provided, said first system consisting of an aqueous solution with amine ligand comprising at least one compound  $X-(NH_2)_n$ , with X belonging to the group consisting of  $(CH_3, CH_3-CH_2, CH_3-(CH_2)_m)$ , or  $NH_3$  or a salt  $xP-(NH_4)^+ p$  with x an acid radical belonging to the group consisting of  $(PO_4^{3-}, HPO_4^{2-}, H_2PO_4^-)$  and  $H_2PO_4^-$ ,  $SO_4^{2-}$ ,  $HSO_4^-$ ,  $CH_3COO^-$ ), n, m and p being non-zero integers, b) a second system that forms a buffer system is provided, c) a third system that provides a metal salt and consists of an aqueous solution with platinum is provided, d) a fourth system that makes it possible to impart the conductive property to the medium is provided, e) the four systems are mixed, by means of which said electrolytic bath is obtained. The first system, the third system and the fourth system are grouped together as a single first solution denoted by B; during step c), the third system forms a second solution denoted by A, consisting of an aqueous solution with platinum IV and comprising sodium hydroxide (NaOH). During step e), the following sub-steps are carried out: e1) the first solution B is covered and its temperature is brought to 50°C minimum for at least 1 h 30 min, e2) the second solution A is added to the first solution B in order to form an electrolytic bath which comprises an amine platinum complex. Application to the manufacture of a metallic sublayer for a thermal barrier on a part made of a superalloy.

IPC 8 full level

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