

Title (en)  
SUPPLEMENT, SURFACE-TREATED METAL MATERIAL, AND PRODUCTION METHOD THEREFOR

Title (de)  
ERGÄNZUNG, OBERFLÄCHENBEHANDELTES METALLMATERIAL UND HERSTELLUNGSVERFAHREN DAFÜR

Title (fr)  
SUPPLÉMENT, MATÉRIAU MÉTALLIQUE TRAITÉ EN SURFACE, ET SON PROCÉDÉ DE PRODUCTION

Publication  
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Application  
**EP 13886009 A 20130528**

Priority  
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Abstract (en)  
[origin: EP3006600A1] The purpose of the present invention is to provide a replenisher that avoids an increase in the HF concentration in a surface-treatment liquid for metal materials, is capable of supplying zirconium ions at high concentration by using the metal material surface-treatment liquid, and has excellent long-term storage stability, in order to continuously chemically convert and/or electrolytically treat a metal material. This replenisher contains prescribed amounts of: a zirconium compound (A) not containing fluorine and including at least one type selected from a group comprising zirconium basic carbonate, zirconium carbonate, zirconium hydroxide, and ammonium zirconium carbonate; a fluorine-containing matter (B) including at least one type selected from a group comprising hydrofluoric acid, a hydrofluoric acid salt, fluorozirconic acid, and a fluorozirconic acid salt; and an acid component (C) including at least one type selected from a group comprising nitric acid, hydrochloric acid, sulfuric acid, and acetic acid.

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**C23C 22/34** (2013.01 - EP US); **C23C 22/86** (2013.01 - EP US); **C25D 3/54** (2013.01 - US); **C25D 9/04** (2013.01 - EP US)

Citation (search report)

- [XA] US 2011083580 A1 20110414 - CHENG SHAN [US], et al
- [XA] JP 2009084623 A 20090423 - NIPPON STEEL CORP
- [A] WO 03029529 A1 20030410 - HENKEL KGAA [DE], et al
- See references of WO 2014192082A1

Designated contracting state (EPC)  
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