

Title (en)

Method for cleaning surfaces and application of the method

Title (de)

Verfahren zur Reinigung von Oberflächen sowie Verwendung des Verfahrens

Title (fr)

Procédé de nettoyage de surfaces et utilisation du procédé

Publication

EP 2031096 A8 20090506 (DE)

Application

EP 08014319 A 20080811

Priority

DE 102007037903 A 20070810

Abstract (en)

[origin: EP2031096A2] The method for cleaning surface of precision processing aluminum containing component, comprises treating the component with a cleaning agent with a pH value of less than 6, which dissolves aluminum containing passivation layer present on the surface of the component, under removal of contaminations contained in the passivation layer, cleaning the component with water under formation of a fluid film wetting the surface of the component, drying the component through controlled removal of the fluid film, and developing a homogeneous or contamination free passivation layer. The method for cleaning surface of precision processing aluminum containing component, comprises treating the component with a cleaning agent with a pH value of less than 6, which dissolves aluminum containing passivation layer present on the surface of the component, under removal of contaminations contained in the passivation layer, cleaning the component with water under formation of a fluid film wetting the surface of the component, drying the component through controlled removal of the fluid film, and developing a homogeneous or contamination free passivation layer. The cleaning agent is watery solution containing hydroxycarboxylic acid with an acid concentration of 0.5-3 wt.% and a pH value of 2-4. The component is wetted with water, watery solution of surfactant, alcohol and/or watery solution of alcohol. The water has a conductance of maximum 0.5 mu S/cm. The treatment and/or the cleaning is carried out at 50-70[deg] C. The component is subjected with ultrasound in a frequency range of 42-47 kHz in further step. The subjecting of the component with the ultrasound is carried out with a power of 1200-1500 W/m² on the surface of the component. The treatment and/or cleaning of the component is carried out over a time period of 2-4 min. The component is moved during the treatment. In the drying and/or developing, the component is contacted with cleaned air. An ultra precision processing such as turning, shaping, cutting, drilling and polishing is carried out under use of diamond tool before the treatment. The treating and/or cleaning of the component is carried out through dipping, coating, spraying and/or wetting. In the cleaning step, the component is submerged in the water and in the drying step, the component is removed from the water with a speed of 10-15 cm/min. The component is partially wetted with the watery solution of acid and deionised water, subsequently washed with desalinated water and then removed from the water under contacting of the component with air in controlled manner. The partial wetting of the component with deionised water is carried out at a water temperature of 15-25[deg] C and the partial wetting of the component with watery solution of acid is carried out at acid temperature of 50-70[deg] C.

IPC 8 full level

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CPC (source: EP)

C23G 1/00 (2013.01); **C23G 1/125** (2013.01); **C11D 2111/20** (2024.01); **C11D 2111/46** (2024.01)

Cited by

CN115094404A; CN106733866A; CN103422108A

Designated contracting state (EPC)

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Designated extension state (EPC)

AL BA MK RS

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