

Title (en)
MULTIFUNCTIONAL ANODIZED LAYER

Title (de)
MULTIFUNKTIONELLE ANODISIERTE SCHICHT

Title (fr)
COUCHE ANODISÉE MULTIFONCTIONNELLE

Publication
EP 2977491 A1 20160127 (EN)

Application
EP 15177488 A 20150720

Priority
US 201462026823 P 20140721

Abstract (en)
A method of anodizing includes immersing an aluminum alloy workpiece in a phosphoric acid anodizing solution and applying a voltage to form a porous oxide layer on the workpiece. The workpiece is then removed from the phosphoric acid anodizing solution and immersed in a controlled anodizing solution. A voltage is applied to form a dense oxide layer under the porous oxide layer. Dissolution of the porous oxide layer is controlled during the formation of the dense oxide layer by using tartaric acid in the controlled acid solution such that the thickness of the porous oxide layer is substantially equivalent before and after the formation of the dense oxide layer. The duplex anodized layer can be further sealed by soaking in a sealing solution to protect the porous oxide layer from hydrolytic decomposition, to improve corrosion protection, and to enhance the bonding with other structural components through adhesives.

IPC 8 full level
C25D 11/08 (2006.01); **C25D 11/10** (2006.01); **C25D 11/12** (2006.01); **C25D 11/24** (2006.01); **F01D 5/28** (2006.01)

CPC (source: EP US)
C25D 11/08 (2013.01 - EP US); **C25D 11/10** (2013.01 - EP US); **C25D 11/12** (2013.01 - EP US); **C25D 11/246** (2013.01 - EP US)

Citation (search report)
• [XYI] US 2005150771 A1 20050714 - KOCK ERICH [DE], et al
• [Y] EP 2469025 A2 20120627 - UNITED TECHNOLOGIES CORP [US]
• [Y] US 2008213618 A1 20080904 - CRITCHLOW GARY [GB], et al
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US10480093B2; EP3401418A1

Designated contracting state (EPC)
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)
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DOCDB simple family (application)
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