Title (en)

Method for producing a polymer coated copper-zinc alloy structure with improved adherence

Title (de)

Verfahren zur Herstellung einer polymerbeschichteten Kupfer-Zink-Legierungsstruktur mit besserer Haftung

Title (fr)

Procédé de production d'une structure en alliage de cuivre/zinc revêtu de polymère doté d'une adhérence améliorée

Publication

**EP 2468422 A1 20120627 (EN)**

Application

**EP 10196553 A 20101222**

Priority

EP 10196553 A 20101222

Abstract (en)

The present invention relates to a method of coating polymers on Cu-Zn alloy substrates with improved adhesion. According to first aspect of the invention the alloy is treated in a plasma reactor with a two-step procedure in order to remove the impurities from the surface and also to improve the surface oxide characteristics. The first step is carried out under vacuum with an inert gas plasma wherein organic and inorganic contamination becomes volatile and is eventually removed. The second step of the method involves treatment of the alloy with oxygen plasma for modifying and selectively oxidizing its surface. By virtue of the superior adhesion performance of maleic anhydride grafted polymers with the above treated alloy, the method of the invention further comprises the step of coating maleic anhydride grafted polymers onto the surface of so treated alloy. Satisfactory and good results were obtained when said polymer is a maleic anhydride grafted polypropylene or polyethylene.

IPC 8 full level

**B05D 3/04** (2006.01); **B05D 3/14** (2006.01); **B05D 7/14** (2006.01); **C23C 8/36** (2006.01)

CPC (source: EP)

**B05D 3/0486** (2013.01); **B05D 3/142** (2013.01); **B05D 7/14** (2013.01); **C23C 8/36** (2013.01); **C23C 8/80** (2013.01); B05D 3/0406 (2013.01); B05D 3/0433 (2013.01); B05D 2202/40 (2013.01)

Citation (applicant)

- GB 1161097 A 19690813 - DOW CHEMICAL CO [US]
- EP 0580944 A1 19940202 - HERAEUS KULZER GMBH [DE]
- JP 2005007710 A 20050113 - OSAKA IND PROMOTION ORG
- RUSSIAN JOURNAL OF COORDINATION CHEMISTRY, vol. 29, no. 11, 2003, pages 743 - 765

Citation (search report)

- [A] WO 02059391 A1 20020801 - UNIV FRIEDRICH ALEXANDER ER [DE], et al
- [A] EP 1132195 A2 20010912 - WOLFF WALSRODE AG [DE]
- [A] US 2009069790 A1 20090312 - YOKLEY EDWARD MAXWELL [US], et al

Cited by

US11471964B2; WO2017182646A1

Designated contracting state (EPC)

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Designated extension state (EPC)

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DOCDB simple family (publication)

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