

Title (en)

ARTICLE HAVING METALLIC SURFACE, TONE-TREATMENT METHOD THEREFOR, AND GAS PHASE OXIDATION DEVICE

Title (de)

GEGENSTAND MIT METALLISCHER OBERFLÄCHE, TONBEHANDLUNGSVERFAHREN DAFÜR UND GASPHASENOXIDATIONSVORRICHTUNG

Title (fr)

ARTICLE AYANT UNE SURFACE MÉTALLIQUE, PROCÉDÉ DE TRAITEMENT DE TEINTE CORRESPONDANT ET DISPOSITIF D'OXYDATION EN PHASE GAZEUSE

Publication

EP 3578681 A1 20191211 (EN)

Application

EP 17895187 A 20170131

Priority

JP 2017003473 W 20170131

Abstract (en)

The present invention improves the rubbing fastness of an article including a base metal with at least the surface composed of copper-zinc alloy after being subjected to tone treatment. In addition, the present invention provides a device for tone treatment capable of reducing the amount of water used as compared with wet processes. Provided is article including: a base material 11 with at least the surface composed of a zinc-containing copper alloy; and an oxide layer 12 adjacent to the surface of the base material 11, wherein the ratio of the mean zinc concentration to the mean copper concentration in the depth range of 10 nm to 20 nm with reference to the surface of the oxide layer 12, A, is higher than the ratio of the mean zinc concentration to the mean copper concentration in the surface of the base material 11, B. Provided is a gas phase oxidation device for performing a tone-treatment method, the gas phase oxidation device including: a gas phase reaction chamber 115 including an inlet and an outlet for performing gas phase oxidation; and a conveyor 122 that allows an elongated member at least partly including a portion with at least the surface consisting of a metal to enter the inlet, pass through the gas phase reaction chamber, and continuously exit from the outlet.

IPC 8 full level

C23C 8/12 (2006.01); **A44B 19/00** (2006.01); **A44B 19/42** (2006.01); **C23C 8/02** (2006.01)

CPC (source: EP)

A44B 19/00 (2013.01); **A44B 19/42** (2013.01); **C22C 9/04** (2013.01); **C23C 8/02** (2013.01); **C23C 8/08** (2013.01); **C23C 8/12** (2013.01); **C23C 8/16** (2013.01); **C23C 8/80** (2013.01); **C23C 28/321** (2013.01); **C23C 28/345** (2013.01); **F27B 9/028** (2013.01); **F27B 9/04** (2013.01); **F27B 9/28** (2013.01)

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)

BA ME

DOCDB simple family (publication)

EP 3578681 A1 20191211; **EP 3578681 A4 20200826**; CN 110234782 A 20190913; CN 110234782 B 20211217; TW 201829841 A 20180816; TW I666342 B 20190721; WO 2018142487 A1 20180809

DOCDB simple family (application)

EP 17895187 A 20170131; CN 201780085078 A 20170131; JP 2017003473 W 20170131; TW 106118490 A 20170605