

Title (en)

THERMALLY MODIFIED OXIDE BASED PRETREATMENTS FOR METALS AND METHODS OF MAKING THE SAME

Title (de)

THERMISCH MODIFIZIERTE OXIDBASIERTE VORBEHANDLUNGEN FÜR METALLE UND VERFAHREN ZU DEREN HERSTELLUNG

Title (fr)

PRÉTRAITEMENTS À BASE D'OXYDE THERMIQUEMENT MODIFIÉ POUR MÉTAUX ET LEURS PROCÉDÉS DE FABRICATION

Publication

EP 4139495 A2 20230301 (EN)

Application

EP 21725329 A 20210423

Priority

- US 202063015056 P 20200424
- US 2021028766 W 20210423

Abstract (en)

[origin: WO2021216950A2] Provided herein are corrosion resistant metal substrates and methods for producing the same by thermal modification. The disclosure provides methods for producing corrosion resistant substrates by producing a pretreatment film on a surface of a metal substrate and heating the pretreated metal substrate. In particular, the metal substrate and/or the pretreated metal substrate of these methods is in an F temper, a T4 temper, or a T6 temper.

IPC 8 full level

C23C 2/12 (2006.01); **C22C 21/00** (2006.01); **C22F 1/04** (2006.01); **C23C 8/10** (2006.01); **C23C 8/12** (2006.01); **C23C 8/16** (2006.01);
C23C 8/80 (2006.01); **C23C 22/56** (2006.01); **C23C 22/82** (2006.01); **C25D 11/04** (2006.01); **C25D 11/18** (2006.01)

CPC (source: EP KR US)

C22C 21/00 (2013.01 - EP KR); **C22F 1/04** (2013.01 - EP KR US); **C23C 22/12** (2013.01 - EP KR US); **C23C 22/361** (2013.01 - EP KR);
C23C 22/82 (2013.01 - EP KR US); **C25D 11/04** (2013.01 - EP); **C25D 11/18** (2013.01 - EP KR US); **C25D 11/024** (2013.01 - EP KR)

Citation (search report)

See references of WO 2021216950A2

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

Designated validation state (EPC)

KH MA MD TN

DOCDB simple family (publication)

WO 2021216950 A2 20211028; WO 2021216950 A3 20211202; CA 3167652 A1 20211028; CN 115427603 A 20221202;
EP 4139495 A2 20230301; JP 2023522896 A 20230601; KR 20220124242 A 20220913; MX 2022012827 A 20221107;
US 2023243060 A1 20230803

DOCDB simple family (application)

US 2021028766 W 20210423; CA 3167652 A 20210423; CN 202180030106 A 20210423; EP 21725329 A 20210423;
JP 2022563157 A 20210423; KR 20227027453 A 20210423; MX 2022012827 A 20210423; US 202117996563 A 20210423