

Title (en)

SUSBTRATE PROVIDED WITH A STACK HAVING THERMAL PROPERTIES, COMPRISING AT LEAST ONE NICKEL OXIDE LAYER

Title (de)

SUBSTRAT MIT EINEM STAPEL MIT THERMISCHEN EIGENSCHAFTEN MIT MINDESTENS EINER NICKELOXIDSCHICHT

Title (fr)

SUBSTRAT MUNI D'UN EMPILEMENT A PROPRIETES THERMIQUES COMPORTANT AU MOINS UNE COUCHE EN OXYDE DE NICKEL

Publication

**EP 3383813 A1 20181010 (FR)**

Application

**EP 16819144 A 20161201**

Priority

- FR 1561722 A 20151202
- FR 2016053172 W 20161201

Abstract (en)

[origin: WO2017093677A1] The invention relates to a transparent substrate (30), the main face of which is provided with a stack of thin layers including at least one, or a single, functional metal layer (140) having reflection properties in the infrared and/or solar radiation ranges, in particular based on silver or metal alloy containing silver, and two anti-reflection coatings (120, 160), each comprising at least one dielectric layer (122, 126; 162, 168). The above-mentioned functional layer (140) is disposed between the two anti-reflection coatings (120, 160). The substrate is characterised in that at least one nickel oxide layer NixO is located under or in contact with the functional layer (140) in the direction of the substrate (30), the physical thickness of said nickel oxide layer NixO being at least 0.3 nm, or between 0.6 and 8.0 nm, or even between 1.0 and 5.0 nm.

IPC 8 full level

**C03C 17/36** (2006.01)

CPC (source: EP KR RU US)

**C03C 17/36** (2013.01 - EP RU); **C03C 17/3602** (2013.01 - RU); **C03C 17/3607** (2013.01 - RU); **C03C 17/3613** (2013.01 - RU); **C03C 17/3626** (2013.01 - US); **C03C 17/3642** (2013.01 - RU); **C03C 17/3644** (2013.01 - EP KR RU US); **C03C 17/3652** (2013.01 - EP KR US); **C03C 17/366** (2013.01 - EP KR RU US); **C03C 2217/73** (2013.01 - US)

Citation (search report)

See references of WO 2017093677A1

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)

**WO 2017093677 A1 20170608**; BR 112018011070 A2 20181121; CA 3006339 A1 20170608; CN 108602717 A 20180928; CO 2018006932 A2 20180719; EP 3383813 A1 20181010; FR 3044658 A1 20170609; FR 3044658 B1 20171215; JP 2019503894 A 20190214; KR 20180088432 A 20180803; MX 2018006764 A 20180801; RU 2018123317 A 20200109; RU 2018123317 A3 20200410; RU 2731597 C2 20200904; US 2020255329 A1 20200813

DOCDB simple family (application)

**FR 2016053172 W 20161201**; BR 112018011070 A 20161201; CA 3006339 A 20161201; CN 201680080901 A 20161201; CO 2018006932 A 20180629; EP 16819144 A 20161201; FR 1561722 A 20151202; JP 2018528682 A 20161201; KR 20187018225 A 20161201; MX 2018006764 A 20161201; RU 2018123317 A 20161201; US 201615780813 A 20161201