

Title (en)  
TRANSPARENT SUBSTRATE WITH A MULTILAYER THIN FILM COATING AND A MULTIPLE GLAZING UNIT COMPRISING THE SAME

Title (de)  
TRANSPARENTES SUBSTRAT MIT EINER MEHRSCHICHTIGEN DÜNNFILMBESCHICHTUNG UND MEHRFACHVERGLASUNGSEINHEIT DAMIT

Title (fr)  
SUBSTRAT TRANSPARENT AVEC UN REVÊTEMENT DE FILM MINCE MULTICOUCHE, ET UNITÉ À VITRAGE MULTIPLE LE COMPRENANT

Publication  
**EP 4048518 A1 20220831 (EN)**

Application  
**EP 20879757 A 20201019**

Priority  
• KR 20190133887 A 20191025  
• KR 2020014230 W 20201019

Abstract (en)  
[origin: WO2021080266A1] A transparent substrate with a multilayer thin film coating according to an example embodiment of the present invention includes a transparent substrate and a multilayer thin film coating, wherein the multilayer thin film coating includes a lower anti-reflection film, a lower metal protective layer, a metal functional layer having an infrared reflecting function, an upper metal protective layer, and an upper anti-reflection film sequentially stacked from the transparent substrate, each of the upper anti-reflection film and the lower anti-reflection film includes at least one dielectric layer, the upper anti-reflection film includes a silicon nitride-based dielectric layer, and the silicon nitride-based dielectric layer is stacked in direct contact with the upper metal protective layer and has a thickness of greater than or equal to 30 nm, a sum of the thickness of the lower metal protective layer and the upper metal protective layer is 0.6 nm to 2.25 nm, and a thickness of the lower metal protective layer is greater than that of the upper metal protective layer.

IPC 8 full level  
**B32B 17/06** (2006.01); **B32B 9/00** (2006.01); **B32B 9/04** (2006.01); **B32B 15/04** (2006.01); **E04C 2/54** (2006.01); **E06B 3/67** (2006.01)

CPC (source: EP KR)  
**B32B 9/005** (2013.01 - KR); **B32B 9/041** (2013.01 - KR); **B32B 15/043** (2013.01 - KR); **B32B 17/06** (2013.01 - KR); **B32B 18/00** (2013.01 - KR); **C03C 17/36** (2013.01 - EP); **C03C 17/3626** (2013.01 - EP); **C03C 17/3642** (2013.01 - EP); **C03C 17/3644** (2013.01 - EP); **C03C 17/3647** (2013.01 - EP); **C03C 17/3649** (2013.01 - EP); **C03C 17/3652** (2013.01 - EP); **C03C 17/366** (2013.01 - EP); **C03C 17/3681** (2013.01 - EP); **E04C 2/54** (2013.01 - KR); **E06B 3/6722** (2013.01 - KR); **B32B 2307/204** (2013.01 - KR); **B32B 2307/412** (2013.01 - KR); **B32B 2307/732** (2013.01 - KR); **B32B 2315/02** (2013.01 - KR); **B32B 2419/00** (2013.01 - KR)

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 2021080266 A1 20210429**; BR 112022001749 A2 20220517; EP 4048518 A1 20220831; EP 4048518 A4 20231101; KR 20210050042 A 20210507; MX 2022004929 A 20220516

DOCDB simple family (application)  
**KR 2020014230 W 20201019**; BR 112022001749 A 20201019; EP 20879757 A 20201019; KR 20190133887 A 20191025; MX 2022004929 A 20201019