Title (en)

METHOD FOR DIRECTLY ADHERING TWO PLATES TOGETHER, INCLUDING A STEP FOR FORMING A TEMPORARY PROTECTIVE NITROGEN LAYER

Title (de)

VERFAHREN ZUR DIREKTEN ZUSAMMENHAFTUNG VON ZWEI PLATTEN MIT EINEM SCHRITT ZUR BILDUNG EINER PROVISORISCHEN SCHUTZSTICKSTOFFSCHICHT

Title (fr)

PROCÉDÉ DE COLLAGE DIRECT ENTRE DEUX PLAQUES, COMPRENANT UNE ÉTAPE DE FORMATION D'UNE COUCHE DE PROTECTION TEMPORAIRE À BASE D'AZOTE

Publication

EP 2612353 A1 20130710 (FR)

Application

EP 11758494 A 20110831

Priority

- FR 1003495 A 20100831
- FR 2011000483 W 20110831

Abstract (en)

[origin: WO2012028792A1] In order to prevent the problems of the hydrolysis of silicon oxide formed by PECVD on the surface of at least one plate, the invention involves, within the vacuum deposition chamber used for depositing the silicon oxide, covering said oxide with a temporary protective layer including nitrogen. The protective layer thus protects the silicon oxide from the external environment, in particular from moisture, when the plate provided with the silicon oxide is stored outside the vacuum deposition chamber. The protective layer is subsequently removed, for example by chemical-mechanical polishing, just before the two plates are placed into contact. The protective layer can be formed by the plasma-enhanced chemical vapor deposition (PEVCD) of silicon nitride by means of plasma-nitriding or nitrogen-doping a surface portion of the silicon oxide.

IPC 8 full level

H01L 21/762 (2006.01)

CPC (source: EP US)

H01L 21/02332 (2013.01 - EP US); **H01L 21/0234** (2013.01 - EP US); **H01L 21/2007** (2013.01 - EP US); **H01L 21/50** (2013.01 - US); **H01L 21/76251** (2013.01 - EP US)

Citation (search report)

See references of WO 2012028792A1

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

DOCDB simple family (publication)

FR 2964111 A1 20120302; **FR 2964111 B1 20130125**; EP 2612353 A1 20130710; US 2013217207 A1 20130822; US 9064863 B2 20150623; WO 2012028792 A1 20120308

DOCDB simple family (application)

FR 1003495 A 20100831; EP 11758494 A 20110831; FR 2011000483 W 20110831; US 201113818843 A 20110831