

Title (en)

METHOD FOR JOINING AT LEAST TWO COMPONENTS

Title (de)

VERFAHREN ZUM VERBINDEN VON WENIGSTENS ZWEI BAUTEILEN

Title (fr)

PROCÉDÉ DE LIAISON D'AU MOINS DEUX ÉLÉMENTS STRUCTURAUX

Publication

**EP 3145657 A1 20170329 (DE)**

Application

**EP 15733620 A 20150521**

Priority

- DE 102014007553 A 20140522
- EP 2015001033 W 20150521

Abstract (en)

[origin: WO2015176819A1] The invention relates to a method for joining a first component (24) to at least one second component by means of at least one joining element (36) which is inserted at a joining site (34) into the component (24), wherein the joining element (36) is pressed into the component (24) by an industrial robot (10) at a speed of less than five metres per second.

IPC 8 full level

**B21J 15/02** (2006.01); **B21J 15/28** (2006.01)

CPC (source: CN EP US)

**B21J 15/025** (2013.01 - CN EP US); **B21J 15/285** (2013.01 - CN EP US)

Citation (search report)

See references of WO 2015176819A1

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)

**DE 102014007553 A1 20151126; DE 102014007553 B4 20190822**; CN 106457359 A 20170222; CN 106457359 B 20211214; EP 3145657 A1 20170329; EP 3145657 B1 20200429; ES 2809449 T3 20210304; US 10940524 B2 20210309; US 2017189954 A1 20170706; WO 2015176819 A1 20151126

DOCDB simple family (application)

**DE 102014007553 A 20140522**; CN 201580026154 A 20150521; EP 15733620 A 20150521; EP 2015001033 W 20150521; ES 15733620 T 20150521; US 201515312994 A 20150521