Title (en)
METHOD FOR CONNECTING A FIRST COMPONENT TO A SECOND COMPONENT

Title (de)
VERFAHREN ZUM VERBINDEN EINES ERSTEN BAUTEILS MIT EINEM ZWEITEN BAUTEIL

Title (fr)
PROCÉDÉ POUR RACCORDER UN PREMIER ÉLÉMENT AVEC UN DEUXIÈME ÉLÉMENT

Publication
EP 3083095 A1 20161026 (DE)

Application
EP 14821579 A 20141216

Priority
- DE 102013020832 A 20131217
- DE 102014206027 A 20140331
- EP 2014078005 W 20141216

Abstract (en)
[origin: WO2015091515A1] The present invention relates to a method for connecting a first component to a second component, wherein the first component has a deformation region, wherein the deformation region is at least partially heated in a first step, wherein in a second step an inner die having an optical component for plastic deformation is provided, wherein in a third step the first component is plastically deformed in the deformation region in order to connect the first component to the second component, and wherein light for heating the first component is directed at the deformation region by means of the optical component of the inner die in the first and/or third step.

IPC 8 full level
B21D 37/16 (2006.01); **B21D 39/06** (2006.01)

CPC (source: EP US)
B21D 37/16 (2013.01 - EP US); **B21D 39/046** (2013.01 - US); **B21D 39/06** (2013.01 - EP US); **B60N 2/161** (2013.01 - EP US); **B60N 2/682** (2013.01 - EP US); **C21D 1/42** (2013.01 - EP US); **G02B 7/1815** (2013.01 - US); **H01S 3/0071** (2013.01 - US); Y02P 10/25 (2015.11 - EP US); Y10T 29/49908 (2015.01 - EP US); Y10T 403/4966 (2015.01 - EP US)

Citation (search report)
See references of WO 2015091515A1

Citation (examination)
- WO 2013190054 A1 20131227 - JOHNSON CONTROLS GMBH [DE]
- DE 102004062896 B4 20060907 - FRAUNHOFER GES FORSCHUNG [DE]

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 102014206027 A1 20150618; CN 105980077 A 20160928; CN 105980077 B 20190226; EP 3083095 A1 20161026; US 10137492 B2 20181127; US 2016311007 A1 20161027; WO 2015091515 A1 20150625

DOCDB simple family (application)
DE 102014206027 A 20140331; CN 201480075220 A 20141216; EP 14821579 A 20141216; EP 2014078005 W 20141216; US 201415105223 A 20141216