

Title (en)
JOINING METHOD FOR MICROFLUIDIC COMPONENTS

Title (de)
FÜGEVERFAHREN FÜR MIKROFLUIDISCHE BAUTEILE

Title (fr)
PROCÉDÉ D'ASSEMBLAGE POUR COMPOSANTS MICROFLUIDIQUES

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Application
EP 10760703 A 20101005

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Abstract (en)
[origin: WO2011042422A1] The invention relates to joining plastic components into a microfluidic cartridge (20). The invention in particular relates to cartridges (20) for diagnostic analysis devices. The cartridge (20) comprises a fluidically conductive floor element (11), a cover (2), and a film (3) disposed between the elements (1, 2). The cover (2) or the floor element (1) and the film (3) comprise a filling opening (5) for filling microfluidic channels (4) in one of the elements having sample fluid. Pins (6) formed integrally with one of the board-shaped elements (1, 2) engage in corresponding holes (7) in the film (3) and the associated element (1, 2) for each. By means of deforming a pin (6), a friction fit is produced between a deformed pin and the wall of a hole, and a head (9) contacting the associated substrate in a form-fitting manner is formed. For the joining process, a press tool (12) is placed on a head end (9) of a pin (6) at a predetermined pressure P, and heat transfer into the pin (6) takes place during a weld time t_s . The pin material is brought to above the glass transition temperature and/or the melting point, and a friction fit between the pin (6) and the wall of the hole (7) is formed by flowing the pin material in the hole (7).

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See references of WO 2011042422A1

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