

Title (en)
METHOD FOR LASER WELDING USING A MOBILE NEGATIVE-PRESSURE CHAMBER, AND NEGATIVE-PRESSURE CHAMBER THEREFOR

Title (de)
VERFAHREN ZUM LASER-VERSCHWEISSEN MIT EINER MOBILEN UNTERDRUCKKAMMER UND UNTERDRUCKKAMMER DAFÜR

Title (fr)
PROCÉDÉ DE SOUDAGE AU LASER POURVU D'UNE CHAMBRE À DÉPRESSION MOBILE ET CHAMBRE À DÉPRESSION CORRESPONDANTE

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Abstract (en)
[origin: WO2020193762A1] The invention relates to a method for laser welding two parts (1, 2) to be joined, along a joint gap (3) arranged between said parts to be joined. For the welding, a laser beam (8) irradiates the joint gap (3) through a mobile negative-pressure chamber (6), in particular over the entire depth of the joint gap (3), the negative-pressure chamber being moved on the parts (1, 2) to be joined along the joint gap (3) and a local negative pressure being produced in the negative-pressure chamber. In the method, before the start of the welding, the joint gap (3) is closed in all surface regions (1a, 2a, 1b, 2b, 1c, 2c) of the parts (1, 2) to be joined in which the joint gap (3) is open to the surroundings, except for a starting region (4), and the unclosed starting region (4) of the joint gap (3) is completely covered by the mobile negative-pressure chamber (6), and the negative-pressure chamber (6) is put under negative pressure and the entire closed space formed between the parts (1, 2) to be joined in the joint gap (3) sealed off from the outside is evacuated by means of the negative-pressure chamber (6) through the unclosed starting region (4) of the joint gap (3), in particular without ambient air from outside passing through the joint gap (3) into the negative-pressure chamber (6), and, proceeding from the starting region (4), the joint gap (3) is welded using the laser (8), the previously created closure thus being locally destroyed. The invention further relates to a mobile negative-pressure chamber (6), in the case of which a negative-pressure-tight feedthrough (10) for a welding wire (11) is arranged in the chamber wall (6a).

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