

Title (en)  
DEVICE FOR WELDING BY MEANS OF LASER RADIATION

Title (de)  
VORRICHTUNG ZUM SCHWEISSEN MITTELS LASERSTRAHLUNG

Title (fr)  
DISPOSITIF DE SOUDURE PAR RAYONNEMENT LASER

Publication  
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Application  
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Priority  
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Abstract (en)  
[origin: WO2004030857A1] The invention relates to a device which enables the adjacent joining surfaces of two plastic parts (workpiece) to be welded together quasi-simultaneously by means of laser radiation, at a joining contour thereof. The bundle of rays emitted by a laser diode (1) is injected, by means of an optical fibre (2), into a first gradient index lens (4.1) which concentrates the bundle of rays onto the workpiece surface (5), the first gradient index lens (4.1) being deviated in relation to the output surface (3) of the optical fibre (2). In this way, the bundle of rays scans a joining contour on the workpiece surface (5) in order to quasi-simultaneously heat, plastify and weld the workpiece along said joining contour. A plurality of such devices can be assembled to form a more complex device, in order to simultaneously and quasi-simultaneously subject larger joining contours to radiation.

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