

Title (en)

FRICTION STIR WELDING TOOL AND METHOD AND ASSEMBLY FOR THE REAL-TIME CONTROL OF A FRICTION STIR WELDING PROCESS

Title (de)

RÜHRREIBSCHWEISSWERKZEUG SOWIE VERFAHREN UND ANORDNUNG ZUR ECHTZEIT-KONTROLLE EINES RÜHRREIBSCHWEISSPROZESSES DURCH ERFASSUNG DER BESCHLEUNIGUNGSKRÄFTE UND/ODER SCHWINGUNGEN AN DEM WERKZEUGKÖRPER

Title (fr)

OUTIL DE SOUDAGE PAR FRICTION-MALAXAGE, ET PROCEDE ET DISPOSITIF POUR COMMANDER UN PROCESSUS DE SOUDAGE PAR FRICTION-MALAXAGE EN TEMPS REEL, PAR DETECTION DES FORCES ACCELERATRICES ET/OU DES OSCILLATIONS AU NIVEAU DU CORPS DE L'OUTIL

Publication

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Application

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Abstract (en)

[origin: WO2007006669A1] The invention relates to a friction stir welding tool and to a method and an assembly for the real-time control of a friction stir welding process. The aim of the invention is to provide a compact friction stir welding tool for universal application and a method and an assembly for the real-time control of a friction stir welding process, in order to produce a weld seam that conforms to quality standards without the need for subsequent finishing and to minimise the stress exerted on the friction stir welding installation. To achieve this, the oscillations of a friction stir welding tool are recorded in the x-, y- and z-directions and the processing forces that emanate from the friction stir welding tool, together with the working temperatures that occur directly at the welding point, are recorded during the friction stir welding process with the aid of appropriate sensors. The recorded data is then telemetrically transmitted to an evaluation unit, where said data is prepared by computer. The process parameters processing speed, processing force and working temperature are regulated by a control unit.

IPC 8 full level

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