

Title (en)

METHOD FOR JOINING STEEL PLATES OR STRIPS PROVIDED WITH A METAL COATING TO ONE ANOTHER BY MEANS OF LASER-BEAM WELDING

Title (de)

VERFAHREN ZUM ANEINANDERFÜGEN VON MIT EINER METALLISCHEN BESCHICHTUNG VERSEHENEN PLATINEN ODER BÄNDERN AUS STAHL DURCH LASERSTRAHLSCHWEISSEN

Title (fr)

PROCÉDÉ PERMETTANT D'ASSEMBLER DES PLATINES POURVUES D'UN REVÊTEMENT MÉTALLIQUE OU DES FEUILLARDS EN ACIER PAR SOUDAGE AU LASER

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Application

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Abstract (en)

[origin: WO2014131491A1] The invention relates to a method for joining steel plates or strips (1, 2; 2') provided with a metal coating, such as an Al or Al-Si coating, to one another by means of laser-beam welding, wherein the plates or strips (1, 2; 2') are welded to one another without prior removal of the metal coating from the weld region. According to the invention, in order to economically produce welded joints of flawless quality without prior removal of the metal coating in the weld region, said welded joints being suitable in particular for subsequent hot-forming processes and press-hardening processes, the laser beam (6) is focussed in such a way that the laser beam strikes the weld region with an elongated focus (6'), wherein the elongated focus (6') extends substantially in alignment with the weld (11) and has a length that is at least 1.5 times the width of the weld. The molten phase thereby can be maintained longer, and thus the outgassing time for strength-reducing coating constituents of the plates or strips (1, 2; 2'), particularly aluminium, can be increased.

IPC 8 full level

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