

Title (en)

Process for remelting surface areas of workpieces

Title (de)

Verfahren zum Umschmelzen von Oberflächenbereichen von Werkstücken

Title (fr)

Procédé pour la refusion de zones de surface de pièces à usiner

Publication

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Application

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Abstract (en)

[origin: EP0617134A1] The surface zones of workpieces of differing geometry and shape are to be modified in their properties such as, for example, wear resistance, by remelting of means of an energy beam, preferably an electron beam. By the introduction of melting tracks, workpieces of cast iron are treated in such a way that the surface zones are modified in a defined manner with slight surface deformation and freedom from pores is achieved. According to the invention, a wedge-shaped melting zone is produced by the deflectable energy beam, forming a vapour capillary. During this step, a critical value of the temperature in a defined edge region of the melting track, in particular of the surface temperature, is not exceeded. Certain parameters of the energy beam and the depth/width ratio of the melting track are preset. The process is preferably applied in the surface hardening of machine components, for example the running surfaces of camshafts. <IMAGE>

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