

Title (en)

METHOD FOR PREVENTING PRESS FIT DAMAGES TO WHEELSETS, PARTICULARLY TO WHEELSETS OF RAIL VEHICLES

Title (de)

VERFAHREN ZUR VERMEIDUNG VON PRESSITZSCHÄDEN AN RADSÄTZEN, INSBESONDERE AN RADSÄTZEN VON SCHIENENFAHRZEUGEN

Title (fr)

PROCEDE DESTINE A EVITER DES DEGATS D'AJUSTEMENT FORCE SUR DES ESSIEUX MONTES, NOTAMMENT SUR DES ESSIEUX MONTES DE VEHICULES SUR RAILS

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Application

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Abstract (en)

[origin: WO02086182A1] The invention relates to a method for preventing press fit damages to wheelsets, particularly to wheelsets of rail vehicles. To this end, the surface of a wheelset shaft is treated before subsequently joining of the wheelset. The aim of the invention is to develop a method, which cost-effectively protects the wheel seats from press damages by means of a special surface treatment, which is adapted to current maintenance technologies, and which avoids structural changes to existing wheelset designs. To this end, the invention provides that, first of all in at least one step, the wheelset shaft is longitudinally turned or longitudinal ground in its cylindrical and conical end area, and the resulting transition is smoothed and/or rounded whereby subsequently treating the surface of the wheelset shaft using a plasma ion implantation method. During this treatment, a finely distributed powder that reduces coefficients of friction, especially a powder containing sulfide, is applied to the rotating wheelset shaft under atmospheric pressure while using a cold plasma that contains reactive gas serving as a carrier gas. The powder is applied in such a manner as to construct, on the nanometer and/or micrometer scale, a very hard metallic slide layer having a low adhesiveness. In the event of the highest contact pressures between the wheelset shaft and the wheel, a solid lubrication, which prevents press damages, is produced immediately after the lubricant film has been ruptured.

IPC 1-7

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IPC 8 full level

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