

Title (en)

NON-DESTRUCTIVE METHOD FOR DETECTING MACHINING BURNS OF A VERY-HIGH-STRENGTH STEEL, AND COLOUR CHART FOR CALIBRATING MACHINING BURNS OF SAID STEEL

Title (de)

ZERSTÖRUNGSFREIES VERFAHREN FÜR DEN NACHWEIS VON BEARBEITUNGSBRANDSTELLEN VON EXTREM HOCHFESTEM STAHL UND FARBTABELLE ZUR KALIBRIERUNG VON BEARBEITUNGSBRANDSTELLEN BEI DIESEM STAHL

Title (fr)

PROCEDE DE DETECTION NON DESTRUCTIF DE BRULURES D'USINAGE D'UN ACIER A TRES HAUTE RESISTANCE, ET NUANCIER D'ÉTALONNAGE DE BRULURES D'USINAGE DE CET ACIER

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Application

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Abstract (en)

[origin: WO2011092438A1] The invention relates to a method for efficient, industrialisable detection of machining burns of VHS steel. For said purpose, the machined steel is immersed in an aqueous solution of acids including hydrofluoric acid and nitric acid. In order to define a burn degree, a colour chart for calibrating machining burns of VHS steel detected using the above method is prepared. Said colour chart can consist of studs (P1 to P10) of the examined steel subjected to deliberate damage by excessive resurfacing actions (or other machining modes), then submerged in the acid solution defined above. The resurfacing actions can be simulated by overheated thermal treatment, between the ageing temperature T_v (for example 510°C for steel) and the solution annealing temperature T_s (950°C for said steel). The samples are classified according to the grey level thereof resulting from the immersion and corresponding to a predetermined hardness and thus to a predetermined level of damage.

IPC 8 full level

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