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Effect of sub-zero treatment on the wear resistance of P/M tool steels

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Sub-zero treatment of tool steels is classified into the cycle of conventional heat treatment. This kind of heat treatment has been reported to improve wear resistance of tools. This improvement is not seen in the same way for all materials and except the material depends on a number of the other factors. This study follows the previous works, in which the effect of sub-zero treatment on the mechanical and structural properties of PM tool steels was solved. Two types of P/M tool steels were austenitized, nitrogen gas quenched and double tempered. Sub-zero period, made at different conditions, was also inserted between quenching and tempering. Cold work steel Vanadis 6 and high speed steels Vanadis 30 were used for the research. Wear evaluation was carried out by pin-on-disk. The observed values of wear resistance have been compared with the values of hardness and the bending strength.

Biography

Jana Sobotová is Deputy Head of Department and tutor in the field of Production and Economics in Engineering and Manufacturing. She is a conference organizer for student creative activities at CTU. She is a supervisor for diploma and bachelor theses, scientific and research activities in the field of heat treatment of metals.

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