

Magnetic Anisotropy of Hard Milled Surfaces

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Grinding operations are sometimes replaced with hard turning or milling cycles. Mechanism of chip separation during grinding and the corresponding surface integrity remarkably differs from hard turning or milling. For this reason, this paper deals with application of Barkhausen noise for evaluation of surface anisotropy after hard milling. Experiments were carried out on bearing steel 100CrMn6 hardened on 45, 55, 62 HRC and one series without heat treatment. The analysis contains comparison of RMS values for the different hardness and tool wear after hard milling and also discusses the specific mechanism of BW motion in the case of cyclic magnetization.

Keywords: Barkhausen noise, hard milling, surface integrity

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