

Non-destructive analysis of surface integrity in turning and grinding operations

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This paper deals with application of Barkhausen noise for analysis of surface integrity in turning and grinding operation. The stress state is analyzed in relation to tool wear. The results of measurements show that the residual stresses are not homogenous on the machined surface. This homogeneity depends on tool wear and stability of cutting process. Application of non-destructive testing through the Barkhausen noise is more suitable for grinding operations. Application of Barkhausen noise testing for turning operation will require the next research.

Keywords: Barkhausen noise, residual stress, grinding, turning

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