Measurement and Analysis of Mass Flow and Abrasive Sieving Impact on Technological Head Vibrations during Cutting Abrasion Resistant Steels with Abrasive Water Jet Technology

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The article presents the results of Technical University in Košice Faculty of Manufacturing Technologies Department of production processes operation and Technical University in Ostrava Physics Institute Liquid jet workplace cooperation in the area of operational states diagnosis of manufacturing systems with abrasive water jet technology (AWJ). Within the operational states diagnostics is the impact of selected technological parameters on technological head vibrations studied. Based on an extensive set of experiments are original graphical dependences determined of the abrasive mass flow and abrasive sieving impact on the vibrations parameter - technological head vibrations acceleration amplitude of manufacturing system with AWJ technology. In addition to the original graphical dependences are in article new knowledge formulated in the area of science and research and recommendations for companies that operates manufacturing systems with AWJ technology.

Keywords: Casting HARDOX 500, Cutting, Hydro-abrasive water jet, Abrasive mass flow rate, vibrations acceleration amplitude

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