# The surface quality of materials after cutting by abrasive water jet evaluated by selected methods

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**Surface roughness is assessed on the basis of various criteria either qualitative or quantitative. The principle of qualitative methods is a subjective comparison of machined surface with the model (the standards) of the surface. The standard board is used, which corresponds to the type of surface technology, the type of an instrument, i.e. the way in which the surface was created. Its accuracy is not sufficient. Methods for expressing roughness numerically based on the defined parameters of roughness are classified as qualitative. Contact or non-contact measurement equipment is used here. Cutting material by abrasive water jet (AWJM) is one of the non-convention production technologies. The AWJ as "tool" leaves visible waviness on the machined surface. It is largely determined by the choice of the abrasive water jet feeding speed. Most of the research work qualifies the state of surface after AWJM according to roughness parameters depending on the cutting parameters. According to this knowledge the surface roughness varies linearly with increasing the cut depth. If we take feed speed as one of the quality assessment of the cutting AWJ parameters, we can watch its influence on changes the relief, (topography) of the cutting area.**

**Key words:** qualitative and quantitative methods, hydro abrasive machining, roughness, surface waviness, profilomether

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