Two local extremes of cutting speed

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In 1906 Taylor mathematically defined the dependance of tool durability on cutting speed in the form: $T = \frac{C_T}{v^m}$ **for the first time. It is an equation of a hyperbola, which represents itself as a straight line in double logarithmic net according to Taylor. The dependance is valid for the tools made of high-speed steel. It has still been used in spite of the fact that new cutting materials, which cannot be used according to it, or can be used only partially in a narrow range of higher cutting speeds. The course of function T=f(v_c) for the tools made of sintered carbid and ceramics will be identified in the paper. It requires extensive durability tests in a wide range of cutting speed. Interesting conclusions can be derived from its course.**

Keywords: surface roughness, cutting force, tool life

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