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Determination of the diamond wheel structure in high-speed grinding using nanoindentation techniques: experimental and numerical simulation

ABSTRACT. Grinding at high speeds (over 80 m/s) is a complex process requiring deep understanding for successful deployment. This article describes ways of improving the integrity of the structure of diamond grinding wheels for high-speed regimes using nanoindentation techniques, as well as the prospects for their solution, using mathematical modelling methods.

Keywords: binder, destructive stress, diamond grains, finite element method, high speed grinding, nanoindentation

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