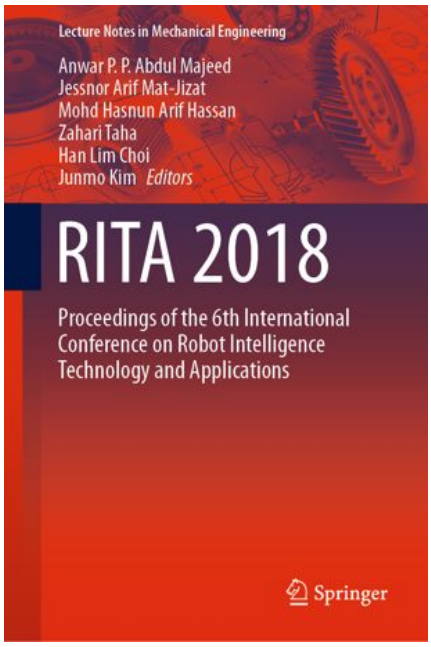

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Contents

The Influence of Coolant on Tool Deterioration of Uncoated Carbide Tools in EndMilling Hardened Inconel 718Plus Nickel Based Superalloy

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Abstract:
Acritical reviewhas been carried out in the literature in order to investigate the impact of the coolant in machining hardened nickel-based superalloy; however little has been found. The increase in strength of a workpiece material generates a high cutting force during the material removal process, therefore reduce the tool life. As a result of limited knowledge addressing the role of coolant in enhancing the life of the cutting tool, this research intends to investigate the influence of coolant on tool deterioration of a hardened nickel-based superalloy. Milling experiments were conducted a hardened state of Inconel 718Plus nickel-based superalloy with uncoated carbide tools in dry and wet conditions. Experimental results showed that on average, both dry and wet conditions allowed for four passes (Npass) before the end of tool life.

Keyword: Tool Deterioration; Inconel 718plus; Nickel-Based Superalloy