Review of: "Machinability of Ti6Al4V Alloy: Tackling Challenges in Milling Operations"

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Potential competing interests: No potential competing interests to declare.

This paper aims to provide insights into simplifying machining processes and enhancing overall efficiency by investigating the parameters that influence chip generation mechanisms during the machining of Ti6Al4V. The interesting subject can add knowledge to the growing emphasis on sustainable manufacturing practices by exploring strategies to minimize environmental impact during Ti6Al4V machining. The paper presents relatively old references (only around 37% are within the last five years). A rapid search on WoS shows a lot of new references about this subject. The conclusions are based on results and robust discussion showing that Ti6Al4V alloys present significant machining challenges despite their desirable properties. Its low thermal conductivity leads to elevated temperatures in the cutting zone, causing phase transformations that harden the material into a difficult-to-machine beta lamellar structure. This, coupled with Ti6Al4V's tendency to become sticky at high temperatures, results in increased cutting stresses, poor chip evacuation, and the formation of a Built-Up Edge on the cutting tool.