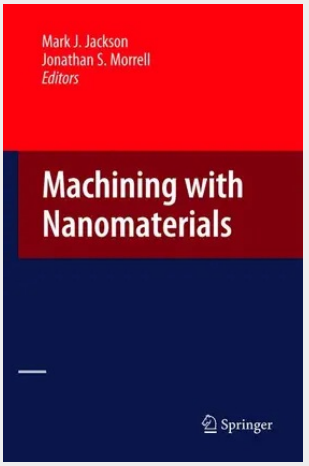
Jackson / Morrell

Machining with Nanomaterials



“Machining with Nanomaterials” focuses on the application of thin film nanostructures to the solution of machining problems. The solution to machining materials in an environmentally conscious manner is to use newly developed thin film superlattice layer coatings that provide a means to eliminate the use of flood cooling and the associated peripheral equipment. The practical significance of the development of these coatings is related to eliminating the need for cooling and lubrication by fluids and the need to machine at ever increasing cutting speeds. The effects of reducing tool life is a particular challenge in high speed machining, and this text explains how coatings can improve tool life, reduce machining costs, and machine in an environmentally acceptable way.

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