1. Record Nr. UNINA9911021148603321

Autore	Zhang Yanbin
Titolo	Hybrid-Energy Sustainable Machining : Mechanism and Processability / / by Yanbin Zhang, Changhe Li
Pubbl/distr/stampa	Singapore : , : Springer Nature Singapore : , : Imprint : Springer, , 2025
ISBN	981-9670-26-8
Edizione	[1st ed. 2025.]
Descrizione fisica	1 online resource (790 pages)
Altri autori (Persone)	LiChanghe
Disciplina	660
Soggetti	Production engineering Artificial intelligence Mechanical Process Engineering Intelligence Infrastructure
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Chapter 1. Hybrid-energy enhanced technologies for sustainable machining -- Chapter 2. Biological Stability and circulating purification of Cutting Fluids -- Chapter 3. Preparation and modification of bio-lubricants.
Sommario/riassunto	This book explores the machinability mechanism of hard-to-machining materials under hybrid energy field, with a particular emphasis on the development and modification of green lubricants, the integration of multi-energy field assistance, and the intelligent machining equipment. It offers a comprehensive overview of cleaner precision manufacturing techniques, multi-energy assisted processing applications, and sustainable manufacturing practices, presenting innovative strategies for energy conservation, emission reduction, and the advancement of an eco-friendly society. By enhancing the sustainable use of bio-lubricants in intelligent machining and utilizing multi-energy field assistance to improve grinding and turning performance, this book provides a green, clean, and precise machining approach that prioritizes environmental protection, resource efficiency, and energy sustainability, while addressing the compatibility challenges between intelligent machining systems and clean energy applications.