



Modeling of Metal Forming and Machining Processes [by Finite Element and Soft Computing Methods /

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Springer London,
2008

Monografía

The physics of metal forming and metal removing is normally expressed using non-linear partial differential equations which can be solved using the finite element method (FEM). However, when the process parameters are uncertain and/or the physics of the process is not well understood, soft computing techniques can be used with FEM or alone to model the process. Using FEM, fuzzy set theory and neural networks as modeling tools; Modeling of Metal Forming and Machining Processes provides a complete treatment of metal forming and machining, and includes: \2022 an explanation of FEM and its application to the modeling of manufacturing processes; \2022 a discussion of the numerical difficulties of FEM; \2022 chapters on the application of soft computing techniques in this modeling process. The algorithms and solved examples included make Modeling of Metal Forming and Machining Processes of value to postgraduates, senior undergraduates, lecturers and researchers in these fields. R&D engineers and consultants for the manufacturing industry will also find it of use

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Título: Modeling of Metal Forming and Machining Processes Recurso electrónico-En línea] by Finite Element and Soft Computing Methods by Prakash M. Dixit, Uday S. Dixit

Editorial: London Springer London 2008

Descripción física: digital

Tipo Audiovisual: Engineering Computer simulation Industrial engineering Machinery Materials Engineering Industrial and Production Engineering Metallic Materials Manufacturing, Machines, Tools Mathematical Modeling and Industrial Mathematics Simulation and Modeling

Mención de serie: Engineering Materials and Processes 1619-0181

Documento fuente: Springer eBooks

Nota general: Engineering (Springer-11647)

Contenido: Metal Forming and Machining Processes -- Review of Stress, Linear Strain and Elastic Stress-Strain Relations -- Classical Theory of Plasticity -- Plasticity of Finite Deformation and Anisotropic Materials and Modeling of Fracture and Friction -- Finite Element Modeling of Metal Forming Processes Using Eulerian Formulation -- Finite Element Modeling of Metal Forming Processes Using Updated Lagrangian Formulation -- Finite Element Modeling of Orthogonal Machining Process -- Background on Soft Computing -- Predictive Modeling of Metal Forming and Machining Processes Using Soft Computing -- Optimization of Metal Forming and Machining Processes -- Epilogue

Restricciones de acceso: Accesible sólo para usuarios de la UPV

Tipo recurso electrónico: Recurso a texto completo

Detalles del sistema: Forma de acceso: Web

ISBN: 9781848001893 978-1-84800-189-3

Autores: Dixit, Uday S.

Entidades: SpringerLink (Servicio en línea)

Enlace a formato físico adicional: Printed edition 9781848001886

Punto acceso adicional serie-Título: Engineering Materials and Processes 1619-0181

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