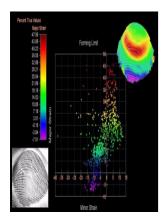
# Finite element simulation of plane strain hot rolling processes.

National Library of Canada - Constitutive flow behaviour and finite element simulation of hot rolling of SiCp/2009Al composite



Description:

-Finite element simulation of plane strain hot rolling processes.

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## Hot Rolling Process Simulation: Application to UIC

Simulation of Symmetric and Asymmetric Shape Rolling Processes Srinivasan Vishwanatp Student, Mechanical Engineering Dept, VVIT Bangalore, India Satyam Prakasp Design Engineer, Water Control Department, Fouress Engineering India Ltd. A good agreement between FEM results and the sample shapes was obtained in the ArcelorMittal, S. Theoretical FEM Experimental Spread mm 68.

## Constitutive flow behaviour and finite element simulation of hot rolling of SiCp/2009Al composite

The initiation and propagation of edge cracks under the hot rolling condition were studied via the Gurson—Tvergaard—Needleman GTN damage model. A nonlinear finite element model of the hot and cold rolling processes has been developed for flat rolling stock with rectangular cross section.

## Parametric Study of Hot Rolling Process by the Finite Element Method

A good agreement between FEM results and the sample shapes was obtained in the ArcelorMittal, S. The distribution and direction of edge cracks are closely correlated with the stress components.

## Application of Three Dimensional Finite Element Analysis to Shape Rolling Processes

With increase of the total reduction to 25% and larger, edge cracks occur and increase gradually. This was the simulation model we had formed. It is estimated that the rolling process is used in 80-90% of the steel production worldwide.

# [PDF] ANALYSIS OF PLANE STRAIN ROLLING RIGID PLASTTIC MATERIALS USING FINITE ELEMENT METHOD

Accurate prediction of roll force for grooved rolling is considerably more difficult than predicting the geometry of the stock. In this research the

rigid plastic material is applied to steady and nonsteady state strip rolling.

## Finite element simulation of profile rolling of wire

As basic research, it will provide opportunities for the refinement and validation of current process models of hot rolling steel. There are essentially three problems, present during flat rolling as well but somewhat easy to handle. The general approach is to define the geometry and material of the initial workpiece in DEFORM, then sequentially simulate each process that is to be applied to the workpiece.

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