

## Modeling and Prediction of Hot Deformation Behavior of IN718

**Authors :** M. Azarbarmas, J. M. Cabrera, J. Calvo, M. Aghaie-Khafri

**Abstract :** The modeling of hot deformation behavior for unseen conditions is important in metal-forming. In this study, the hot deformation of IN718 has been characterized in the temperature range 950-1100 and strain rate range 0.001-0.1 s<sup>-1</sup> using hot compression tests. All stress-strain curves showed the occurrence of dynamic recrystallization. These curves were implemented quantitatively in mathematics, and then constitutive equation indicating the relationship between the flow stress and hot deformation parameters was obtained successfully.

**Keywords :** compression test, constitutive equation, dynamic recrystallization, hot working

**Conference Title :** ICMSCMP 2015 : International Conference on Material Science and Condensed Matter Physics

**Conference Location :** Barcelona, Spain

**Conference Dates :** February 26-27, 2015