

Experimental Study on Thermomechanical Properties of New-Generation ODS Alloys

Authors : O. Khalaj, B. Mašek, H. Jirková, J. Svoboda

Abstract : By using a combination of new technologies together with an unconventional use of different types of materials, specific mechanical properties and structures of the material can be achieved. Some possibilities are enabled by a combination of powder metallurgy in the preparation of a metal matrix with dispersed stable particles achieved by mechanical alloying and hot consolidation. This paper explains the thermomechanical properties of new generation of Oxide Dispersion Strengthened alloys (ODS) within three ranges of temperature with specified deformation profiles. The results show that the mechanical properties of new ODS alloys are significantly affected by the thermomechanical treatment.

Keywords : hot forming, ODS, alloys, thermomechanical, Fe-Al, Al₂O₃

Conference Title : ICMFPD 2017 : International Conference on Metal Forming and Plastic Deformation

Conference Location : Barcelona, Spain

Conference Dates : July 27-28, 2017