

عنوان مقاله:

Concurrent effect of improving pseudoelasticity and shape memory effect on the recovery stress of FeMnSi based SMA

محل انتشار:

یازدهمین کنفرانس بین المللی مهندسی مواد و متالورژی (iMat2022) (سال: 1401)

تعداد صفحات اصل مقاله: 16

نویسندگان:

Mahbod Golrang - *School of Metallurgy and Materials Engineering, College of Engineering, University of Tehran, Tehran, Iran*

Hesamodin Khodaverdi - *School of Metallurgy and Materials Engineering, College of Engineering, University of Tehran, Tehran, Iran*

Maryam Mohri - *Empa, Swiss Federal Laboratories for Materials Science and Technology, 8600 Dübendorf, Switzerland*

Elyas Ghafoori - *Institute for Steel Construction, Faculty of Civil Engineering and Geodetic Science, Leibniz University Hannover, 30167 Hannover, Germany*

Mahmoud Nili Ahmadabadi - *School of Metallurgy and Materials Engineering, College of Engineering, University of Tehran, Tehran, Iran*

خلاصه مقاله:

To investigate the impact of various maximum recovery temperatures on the recovery stress and strain, the recently developed Fe-based shape memory alloy with various thermomechanical and heat treatment conditions was taken into consideration. Based on the competition of favorable grain refinement, there is a trade-off between pseudoelasticity and the shape memory effect. It was found that improving PE sacrifices SME in grain refined specimens, and recovery stress tends to go up with PE improvement. For As-received aged samples due to the non-uniform distribution of precipitates, the strained specimen tends to reverse back from austenite to martensite during cooling of stress recovery tests.

کلمات کلیدی:

Shape memory alloys, Fe-Mn-Si, Pseudoelasticity, Stress recovery, Strain recovery

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/1622188>



