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C. Xu, J.P. Pan, T. Nakata, X.G. Qiao, Y.Q. Chi, M.Y. Zheng, S. Kamado

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C. Xu<sup>a,b,\*</sup>, J.P. Pan<sup>a</sup>, T. Nakata<sup>b</sup>, X.G. Qiao<sup>a</sup>, Y.Q. Chi<sup>a</sup>, M.Y. Zheng<sup>a,\*</sup>, S. Kamado<sup>b</sup>

<sup>a</sup> School of Materials Science and Engineering, Harbin Institute of Technology,  
Harbin 150001, PR China

<sup>b</sup> Department of Mechanical Engineering, Nagaoka University of Technology,  
Nagaoka 940-2188, Japan

\*Corresponding author. E-mail: xuchao@vos.nagaokaut.ac.jp (C. Xu),  
zhenghe@hit.edu.cn (M.Y. Zheng)

Tel: 81 258 47 9760, Fax: 81 258 47 9770.

## Abstract

Hot deformation behavior of the homogenized and quenched Mg-9Gd-2.9Y-1.9Zn-0.4Zr-0.2Ca (wt.%) alloy was investigated by compression test at temperatures of 300~500°C and strain rates of 0.001~10s<sup>-1</sup>. The flow stress is sensitive to the deformation temperature and strain rate, which increases with increasing strain rate and decreasing temperature. The processing map constructed at the strain of 0.9 shows two stability domains with high power dissipation efficiencies and the optimum hot working condition for the alloy is determined as deformation temperature of 450°C and strain rate of 0.01s<sup>-1</sup>, which correlates with the continuous dynamic recrystallization as main softening mechanism. However, dense

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