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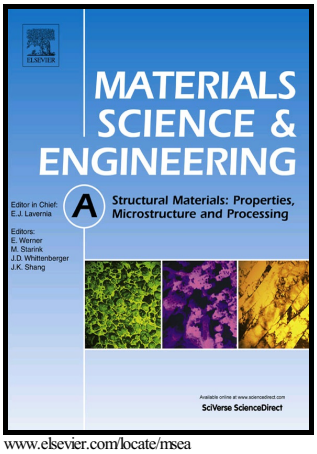

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Abstract

This work studied the thermal stability of ultrafine grain interstitial-free (IF) steel fabricated by differential speed rolling. The IF steel samples were rolled with the total strain of ~ 1.7 and annealed at 773 K for 30 min - 4 hours. The high thermal stability was achieved after annealing for 30 minutes. Thermal stability was also analyzed by the calculations of activation energy for grain growth of ultrafine grain IF steel and the mechanical behaviors into consideration.

***Keywords*:** interstitial-free (IF) steel; differential speed rolling; annealing; grain growth