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论文

异步轧制速比对3％硅钢织构转变的影响

刘刚;齐克敏;王福;王刚;梁志德

东北大学材料与冶金学院;沈阳,110006,辽宁大学化学科学与工程学院,沈阳,110036;东北大学材料与冶金学院;沈阳,110006;东北大学材料与冶金学院;沈阳,110006;东北大学材料与冶金学院;沈阳,110006;东北大学材料与冶金学院;沈阳,110006

摘要： 采用不同的速比对取向硅钢进行异步冷轧，并在常规的生产条件下进行退火，研究速比对织构转变的影响. 结果表明：速比对冷轧样品的表面及靠近快速辊侧的区域影响较小，但对心部的影响较大；速比的增加有利于样品两侧亚表层及心部织构组态的改善；样品在靠近快速辊侧的织构转变中出现了“遗传性”，但对最终的织构和磁性影响不大；二次再结晶退火过程中，Goss织构组分异常长大，成为板材的唯一组分；在不同的速比下，样品最终的晶粒尺寸、织构和磁性基本相同，因此速比可在一定的范围内选择.

关键词： 异步轧制 速比 硅钢 织构

THE INFLUENCE OF MISMATCH SPEED RATIO ON TEXTURE DEVELOPMENT IN CROSS SHEAR ROLLED 3% SILICON STEEL

LIU Gang (School of Materials and Metallurgy, Northeastern University, Shenyang 110006; School of Chemical Science and Engineering, Liaoning University, Shenyang 110036)QI Kemin; WANG Fu; WANG Gang; LIANG Zhide (School of Materials and Metallurgy, Northeastern University, Shenyang 110006)

Abstract: Commercial grain oriented silicon steel was cold rolled by cross shear rolling (CSR) with different mismatch speed ratios (MSR), followed by industry annealing. The effects of MSR on the texture development were analyzed. Experimental Results show that the MSRexerts little effect on the surface layers and the area near the higher speed roll, but more influenceon the middle section. With increasing the MSR, the texture configuration at the subsurface andthe middle section can be improved significantly. In this process the texture development exhibitsthe "inherence ", but does not influence the final results. The effect of secondary recrystallizationannealing in a CSR process is similar to that in conventional rolling process, i.e. Goss texture grows abnormally, and form the only texture component. Under different MSR being used, thefinal texture and the magnetic properties of samples are resemble, so the MSR can be selectedwithin a certain range.

Keywords: cross shear rolling mismatch speed ratio silicon steel texture

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通讯作者:

作者简介:

作者Email:

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