

Morphology Feature of Nanostructure Bainitic Steel after Tempering Treatment

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Abstract : The microstructure characterization of tempered nanocrystalline bainitic steel is investigated in the present study. It is found that two types of plastic relaxation, dislocation debris and nanotwin, occurs in the displacive transformation due to relatively low transformation temperature and high carbon content. Because most carbon atoms trap in the dislocation, high dislocation density can be sustained during the tempering process. More carbides only can be found in the high tempered temperature due to intense recovery progression.

Keywords : nanostructure bainitic steel, tempered, TEM, nano-twin, dislocation debris, accommodation

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