

Effect of Martensite Content and Its Morphology on Mechanical Properties of Microalloyed Dual Phase Steel

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Abstract : Microalloyed dual phase steels have been prepared by intercritical austenitisation (ICA) treatment of normalized steel at different temperature and time. Water quenching was carried to obtain different martensite volume fraction (MVF) in DP steels. DP steels and normalized steels have been characterized by optical and scanning electron microscopy, Vickers hardness measurements and tensile properties determination. The effect of MVF and martensite morphology on mechanical properties and fracture behavior of microalloyed dual phase steels have been explained in the present work.

Keywords : dual phase steel, martensite morphology, hardness, tensile strength

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