

“COMPARISON AND TESTING OF TENSILE STRENGTH FOR LOW & MEDIUM CARBON STEEL”

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ABSTRACT

In this research work investigations were carried out to study the effects of heat treatment on the Tensile strength (mechanical properties) of low carbon steel and medium carbon steel and on Dual phase steel development from low carbon steel and medium carbon steel. Dual phase steel is developed by intercritical annealing in order to improve the tensile strength. Low carbon steel of 0.26% carbon content and Medium carbon steel of 0.46% carbon content is first intercritically heated in furnace and then rapid cooling in water is done to obtain the martensite steels and named as Dual phase steel. Dual Phase steels are prepared by the intercritical annealing process at 840°C temperature and for holding time of 6 minutes. Dual phase steel so obtained is now tested and properties of the Dual Phase steel are evaluated. Tensile test for each Dual phase steel specimen which is developed from low carbon steel and medium carbon steel is conducted to compare its tensile strength with untreated low carbon steel and untreated medium carbon steel. The result indicates that the specimen increased tensile strength decreased elongation percentage with the heating temperature and holding time.

KEYWORDS: Dual Phase Steel, Intercritical Annealing, Martensite, Tensile Strength, Water Quenching