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Experiments to study the effects of various quenching media on the mechanical properties of inter- critically annealed 0.267% C- 0.83% Mn steel

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Abstract

The authors conducted experiments to study the effects of various quenching media on the mechanical properties of inter- critically annealed 0.267% C- 0.83% Mn steel. their experimental Work consisted of quenching the samples in water, distilled water and palm kernel oil after allowing them attain the following inter- critical temperatures of 760⁰c, 770⁰c, 790⁰c and 800⁰c. After each treatment the mechanical properties and microstructure for each specimen were evaluated. Heat treatment is a controlled heating cooling metals with a view to change the physical and mechanical properties and microstructure. Hardening and quenching is performed to avoid Ferrite formation and allows martensite to be formed. Quenching media depends on the hardenability of the particular alloy, the section fitness and saphe and the cooling rate needed.