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Effect of quenching medium on hardness of three grades of steel-AISI 1040,1050 and 4340

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Abstract

The authors studied the effect of quenching medium on hardness of three grades of steel-AISI 1040,1050 and 4340. Medium carbon steels contain higher percentage of carbon and hence they respond better for heat treatment process. Also their hardness can be increased using different quenching mediums. Their study concentrated on improving the hardness of above steels. The various quenching medium used by them were water, oil, brine and air for different soaking times of 30, 60 and 90 minutes at 850⁰c. The hardness values for above conditions were measured and compared. Their experimental work consisted of preparing test specimens having a defined composition. The test specimens are 25x10x10mm (length, width, thickness).