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# Improving quench hardening of low carbon steels

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Abstract

The authors worked on improving quench hardening of low carbon steels. Normally the carbon content in the steels determines whether the steel can be directly hardened. If the carbon content is less than 0.25% then an alternate means exists to increase the carbon content of the surface by quenching the same in a quenching media consisting of brine solution. The quench results were compared with water and oil quenching. The results exhibited a greater hardness compared to brine quench. The hardness obtained from water quench was below 20 HRC while quenching in heavy brine solution and surface quench gave a hardness of above 40 HRC. Their studies were based on the fact that, only steels in which the carbon content exceeds 0.3% are heat treatable to improve mechanical properties.