



# International Journal on Recent Researches In Science, Engineering & Technology

(Division of Mechanical Engineering)

A Journal Established in early 2000 as National journal and upgraded to International journal in 2013 and is in existence for the last 10 years. It is run by Retired Professors from NIT, Trichy.

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Research Paper

Available online at: [www.jrrset.com](http://www.jrrset.com)

ISSN (Print) : 2347-6729

ISSN (Online) : 2348-3105

Volume 5, Issue 4,  
April 2017

JIR IF : 2.54

DIIF IF : 1.46

SJIF IF: 1.329

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## Experimental investigations to study the effect of various quenching media on the mechanical properties of intercritically annealed 0.15C and 0.43Mn steels

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### Abstract

The authors conducted experiments to study the effect of various quenching media on the mechanical properties of intercritically annealed 0.15C and 0.43Mn steels. They have conducted prequenching of hot rolled low carbon steel at 900<sup>0</sup>c. Sets of steel samples made from above steel were intercritically heat treated from 750 to 810<sup>0</sup>c at intervals of 10<sup>0</sup>c for one hour and quenched in SAE40 engine oil, water and brine quenchants. The effect of this quenching on mechanical properties of above steel were discussed. The quenching media increased the strength and hardness properties but decreased the ductility. Steel quenched in brine had the highest strength of 708 N/mm<sup>2</sup> and hardness value 233 BHN at 810<sup>0</sup>c. The water quenched resulted 666N/mm<sup>2</sup> and oil quenched resulted 618N/mm<sup>2</sup>.