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Study of Wear Characteristics of Heat Treated Ultra High Carbon Steel

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Abstract:Steel is a traditional material used for more machinery in the manufacturing industry.High carbon steel has a character for being especially hard, but the extra carbon also makes it more brittle than other types of steel. Recent studies suggest that spheroidization technique can be a method to increase the wear resistance of Ultra High Carbon Steel. Steel specimens are subjected to different heat treatment procedures to achieve various phases i.e. annealed, quenched and forged. Spheroidization heat treatment process then made on these various steel specimens. Then the wear test is done on a standard pin on disc wear apparatus under different loads of 0.5, 2, 4 and 6 kg under constant sliding distance. The results showed improved wear characteristics for spherodized steel specimens.

Keywords: Ultra High Carbon Steel, Spheroidization, Annealed, Quenched, Forged, Pin on disc wear testing machine.