

**ChemTech****International Journal of ChemTech Research**CODEN (USA): IJCRGG, ISSN: 0974-4290, ISSN(Online):2455-9555  
Vol.10 No.14, pp 82-87, 2017**Evaluation of wear characteristics of ultra high carbon steel****N. Nareshkumar<sup>1\*</sup>, Dr. Chennankaiah<sup>1</sup>, Shaila D. Hosamani<sup>2</sup>**<sup>1</sup>Department of Mechanical Engineering, Adhiyamaan College of Engineering, Hosur, Tamil Nadu, India<sup>2</sup>Department of Automobile Engineering, Acharya Institute of Technology, Bangalore, Karnataka India

**Abstract :** In this modern era high wear performance materials are necessary components in machinery and equipment's especially in automobile sectors. One of the developed high wear resistance material is the investigation of Ultra High Carbon Steel to study with 1% carbon transformed from cementite to Spheroidite shape. This assignment aimed to study of wear behaviour of Ultra High carbon Steels using computerized Pin on Disc wear testing machine. The amount of wear could identify by scanning the materials in microscope analysis. The annealed, quenched and forged test samples to four different load variation of 0.5kg, 2kg, 4kg and 6kg shows that with increase in load, the wear rate decreases as there is increase in friction at the contact surface. Result of this project goes to good wear rate of spherodized shape, of quenched specimen compare to other samples. Observed that, volumetric wear rate of one wt. % C of Spheroidite shape wear for all the operational conditions. Scanning Electron Microscope observation of the worn surface showed that three body and surface confinements were the prevailing to sliding wear mechanisms.

**Keywords :** spheroidite, microstructure, SEM analysis, volumetric wear rate, normal pressure, sliding speed.

**N. Nareshkumar *et al*** /International Journal of ChemTech Research, 2017,10(14): 82-87.

\*\*\*\*\*