ABSTRACT

The alloys of steel are been used widely due to their availability and their flexibility for various manufacturing processes. The properties of each alloy are alone not sufficient to have an excellent product for high load bearing component. These components have been modified to get good durability and service life. This project work of enhancing the wear resistance of gear shaft made up on alloy steel has been done to modify the surface so as to reduce the loss of material over the surface of the component under continuous usage with severe loading.

Comparison between the surface treatment processes namely heat treatment and chrome plating are carried out with respect to wear resistance and the best process which reduces the wear is determined. Hard chrome plating of the components increases their wear resistance significantly and provides a good corrosion resistance.

Heat treatment of the surface of the components increases the surface hardness, there by increases the wear resistance. These two processes were compared and mechanism were established for increased wear resistance.