

A Review of Tribological Excellence of Bronze Alloys

Authors : Ram Dhani chauhan

Abstract : Tribology is a term that was developed from the Greek words 'tribos' (rubbing) and 'logy' (knowledge). In other words, a study of wear, friction and lubrication of material is known as Tribology. In groundwater irrigation, the life of submersible pump components like impeller, bush and wear ring will depend upon the wear and corrosion resistance of casted material. Leaded tin bronze (LTB) is an easily castable material with good mechanical properties and tribological behaviour and is utilised in submersible pumps at large. It has been investigated that, as Sn content increases from 4-8 wt. % in LTB alloys, the hardness of the alloys increases and the wear rate decreases. Similarly, a composite of copper with 3% wt. Graphite (threshold limit of mix) has a lower COF (coefficient of friction) and the lowest wear rate. In LTB alloys, in the initial low-speed range, wear increases and in the higher range, it was found that wear rate decreases.

Keywords : COF (coefficient of friction), COW (coefficient of wear), Tribology, LTB (leaded Tin Bronze)

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