

THE WEAR OF LOW TEMPERATURE NITRIDED STEELS UNDER DIFFERENT WEAR PROCESSES

A programme of tests has been carried out to assess the wear resistance of three low temperature nitriding treatments when compared with the untreated steel and a standard cyanide case-hardening treatment, under conditions of scuffing, abrasion, fretting and corrosion.

The main conclusion is that low temperature nitriding is most suited to applications where scuffing and corrosion are the main wear mechanisms and that the resistance to abrasion and fretting is poorer in general than that of traditional case-hardening. Therefore, care should be taken in assessing the wear process in any application in which these treatments are used. Reference is also made to the wear mechanisms in the different tests.