

# Oxidation and fatigue-life of an AISI-D3 steel machined by electrodischarge

Béjar,

Schnake,

Gallardo,

In this work, the influence of oxidation during austenitizing heating in air. before quenching, on the fatigue-life of an AISI-D3 steel previously machined by electrodischarge machining, is studied. It has been determined that the fatigue-life depends on the penetration of the oxidation into the steel. The maximum fatigue-life was attained for an oxidation penetration similar to the maximum length of the cracks. Thus, controlled oxidation becomes a very simple and effective method for improving the fatigue-life of pieces machined by electrodischarge machining. © 1997 Elsevier Science S.A.