Iron based materials manufactured by powder metallurgy (P/M) method are widely used in industry. These materials are very important in applications where no machining is required, they can also be used as journal bearing material due to their self-lubricated property, and can be used for applications in the medical industry. In this study, powder metal parts were manufactured from composites based on FeCu-graphite by P/M method. Fatigue test was carried out on manufactured samples, which were only treated by boronizing or boronizing and shot peening. The fatigue properties of these parts were investigated by a rotating bending fatigue test rig.