Ferrous based PM (powder metallurgical) materials are widely used in journal bearings since they provide a good tribological performance. These bearings are self-lubricating and can be used in places where lubricating is not possible. This also applies to the shaft material which shows adhesive wear. Tribological properties can be improved and adhesive wear can be decreased by boronizing. In this study, tribological properties of ferrous based boronized and non-boronized Fe-graphite, FeCu-graphite and CuSnFe-graphite bearings manufactured by PM method have been determined and compared. Boronizing treatment was carried out at 950 degrees C for 4 hours. The SAE 1050 steel shaft was used as counter abrader. Experiments were carried out at 20 N loads and 1500 rpm every 30 minutes for 2.5 hours.