We measured and correlated grain size distribution and rock-magnetic parameters in marine sediments from off Wilkesland, East Antarctica (60-75°S, 110-180°E). The rock-magnetic parameters measured were S-ratio (back magnetic field: 0.1T), Hrc/Hc, Mr/Ms, and SIRM/k. As a result, clear correlation was found between grain size distribution and both S-ratio and SIRM/k. S-ratio was decreased and SIRM/k was increased with increasing the amount of grains of 1-10 micrometer.