Abstract

A kaolinitic clay of Santander was beneficiated in order to obtain a suitable raw material for the manufacture of silicoaluminous refractories. With the application of the metallurgical operations of wet screening, sedimentation and leaching it was pretended to eliminate the major quantity of quartz and iron. The separation process of the quartz through screening and sedimentation was not efficient, since this one presents a particle size very small, similar to that of the clayey species. The relation Si/Al was reduced only in 12% (from 1.52 to 1.35). Almost the totality of the iron of the clay (near 98 %) was eliminated through the leaching to 90°C, with solution of oxalic acid 0.4 M, with which the “whitening” of the clay was achieved. Finally, it was determined that it is possible to obtain refractories with softening point of 1600°C from the beneficiated clay.

Keywords

Clay, kaolinite, beneficiation, leaching, refractories.