

Use of E-cat (Equilibrium Catalyst) for clinker production through high energy milling

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Abstract

Petroleum refineries show great worry concerning the destiny of the solid waste resulting from different process using in petroleum manufactory due the possible environment impacts. One of such waste is the so called E-cat, used in the catalytic cracking of petroleum that is deactivated by the refineries due the accumulation of contaminants such as heavy metals and coke. The present study will be concerned about the re-use of E-cat as a load in clinker production (main constituent of Portland cement). The first step of the work will comprise the high energy grinding of E-cat, since such process shows excellent performance in particle size reduction. Therefore is expected a better adjustment of the particle's granulometric distribution of E-cat that will allow a much more efficient homogenization with the clinker in different bands in high-energy ball milling. It is expected that such improvement in clinker E-cat mixtures homogenization will improve the properties of the produced cement like gluing and hardening.

[1] U. Prado, J. Martinelli, J. Souza, L. Silva, Use of spent catalyst of the Fluid Catalytic Cracking Units (FCCU) to produce glass frits, Brazilian Congress of Ceramics. **55**, (2011) 2706.