

## **RECENT AND FUTURE TECHNOLOGICAL DEVELOPMENTS IN QUALITY GRADES OF KAOLINS: A STRONG EXAMPLE OF APPLIED MINERALOGY**

VELHO, J.

The actual scene in terms of kaolin technology (processing and quality grades) is completely different from the beginning of the 70s. Nowadays new processes are being developed in special about kaolin manipulation, proportioning a widening variety of quality grades. Technological improvements that are being achieved in terms of kaolin processing and manipulation are analyzed. First of all a classification of different types of kaolin is presented. After that, a brief approach about the evolution of the main brightness enhancement methods is made, in special selective flocculation, magnetic separation and ozonation. A special quality grade is analyzed: the structured kaolin, physical and chemical varieties. A brief description about the process involved in the synthesis of this type of kaolin is made as well as its main field of application. For paper application there are three traditional quality grades: mate, sheen and delaminated. Late years a new type of kaolin called manipulated was developed. Different manipulation processes of kaolins are described (standard, design and functionally). A new market for kaolin is analyzed: pitch control for pulp industries. Despite kaolinite has no absorption properties, a manipulated kaolin was developed with a high degree of efficiency. The main goal of this kaolin is to erode the talc market, traditional raw material for pitch control. Finally, a foreseen about future technological improvements in quality grades is made in special for kaolin applied to paper industry.