

**MS15-1-1 Quantitative Phase Analysis of Anhydrous Clinker Portland using Rietveld Method
#MS15-1-1**

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Abstract

Modern cements are complex materials with well-defined compositions that reach to high and consistent results. Automated techniques such as Rietveld analysis provide high precision controls of the composition and polymorphism of cement phases in order to optimize characteristics and consequently quality product. For the characterization of cements used in the construction sector, Rietveld method has significant benefits over other analytical techniques. The precise information about phase assemblage and polymorphism lets monitoring the hydration behaviour of binder materials.

The objective of this paper is to report the quantitative Rietveld phase analyzes for three industrial clinkers, to review the most recent quantitative X-ray powder diffraction studies on anhydrous cement and to discuss the influence of the different parameters elaborated in the Rietveld method.