Type 1L Use in Dam Foundation Grouting

To reduce the carbon footprint of the cement industry, producers in many markets have stopped production of ordinary Portland cement and only supply blended cements wherein a portion of the cement content is replaced by less energy intensive materials such as ground limestone. In the specialty geotechnical construction sector, concerns over potential differences in performance between similarly proportioned mixes using conventional cement and blended cement have been raised and are being evaluated on a project by project basis.

This presentation compares data from ASTM C595 (Type 1L) cement mixes in contemporary dam foundation grouting projects to previous grouting programs that have used ASTM C150 Portland cements (Type I/II, III and V). The results obtained from in-field quality control testing will be used to compare the fresh and cured properties of the balanced stable grout mixes used in various projects with Type 1L and other conventional cements. The presentation will highlight similarities and differences with regards to specific gravity, marsh funnel viscosities, bleed, pressure filtration, set times, and resistance to chemical attack.