

# **PERMEABILITY OF FLOWABLE SLURRY MATERIALS CONTAINING FOUNDRY SAND AND FLY ASH**

By Tarun Naik and Shiw Singh

Reference: CBU-1996-09

## **ABSTRACT**

This study was carried out to evaluate the effect of foundry sand and fly ash on permeability of flowable slurry mixtures. In this work, two reference flowable fly ash slurry mixtures were proportioned for strength levels in the range of 0.34 to 0.69 MPa (50 to 100 psi) at 28 days using two different sources of ASTM Class F fly ash. Other mixtures contained clean and used foundry sands as a replacement of fly ash in the range of 30 to 85%. The permeability of the flowable mixtures was affected by increase in either the water to cementitious materials ratio or the foundry sand content. The permeability values were either comparable to or lower than those reported for granular compacted fills up to 85% fly ash replacement with foundry sand. Type of foundry sand (clean or used) did not materially affect permeability of the mixtures tested. The permeability values for the mixtures tested varied from  $3 \times 10^{-6}$  to  $74 \times 10^{-6}$  cm/s.