

## **Slurry Analysis & Shell Material Testing Methods**

Dave Berta, Product and Application Specialist

Sam Duncan, Product and Application Engineer

Ransom & Randolph, Maumee, Ohio USA

### **Abstract**

Investment casting slurries are complex mixtures of materials that need to be controlled in order to produce ceramic shells able to withstand the forces and temperatures required to yield desired castings. In order to control colloidal-based slurries, it is important to understand basic colloidal silica chemistry and properly utilize testing techniques and procedures to measure and control various ceramic shell properties.

This presentation will review the keys to a good slurry control program, including testing frequency and adjustments. It will also study historical and newly developed testing procedures used to measure and control various ceramic shell properties. These tests can be used to benchmark shell properties within a shell system or to compare different shell systems to one another.