



National T&O Workshop Program

1:00 PM to 6:00 PM
Wednesday, December 11

Principles of Casting Gating System Design

Christoph Beckermann
University of Iowa

The gating system introduces metal into a mold, but it must avoid causing defects such as reoxidation inclusions, laps, sand erosion, gas cavities and porosity. For years, subjective rules of thumb have been used to design gating systems. More recently, computer simulations of filling have provided some insight into the quality of gating systems. Gating systems will be presented that minimize air entrainment and the formation of reoxidation inclusions.

Applying Naturally Pressurized Gating Practices

Jerry Thiel
University of Northern Iowa

Learn how to apply naturally pressurized gating systems. Take the practices back to your foundry to try it for yourself. Make your decision on whether it is beneficial, or requires tweaks to maximize the benefit for your operations.

DIY Casting Analysis

John Griffin, Robin Foley and Charlie Monroe
University of Alabama at Birmingham

UAB for decades has provided a great service to the industry by performing casting analysis – proving what the problem is and that it isn't something else. Now you can learn how to do this for yourself with a hands-on casting analysis activity to perform your own lab examination.

Fundamentals of Mn Steel

Tom Stevens
SFSA Alumni

The metallurgy of manganese steel will be discussed including phase diagrams for non-metallurgist and the effect of elements on the properties of these grades. Surface hardening in manganese steel is a poorly understood phenomenon, which is very different from typical carbon and low alloy steels; the common theories will be explored.

Preliminary program – subject to change