Computer Design of Feeding Systems for Iron Castings

Or, How to Avoid Years of Problems with 20 Minutes of Analysis

Abstract:

Iron foundries use a variety of methods for design of feeding systems for iron castings. Many of these methods are based on non-scientific principles, or principles which neglect the actual behavior of the cast metal during solidification. There is now available a set of tools and principles which, if applied correctly, will reduce or eliminate the vast majority of feeding problems encountered in iron foundries. Application of these techniques to a given casting may often require only 20 or 30 minutes of human and computer time, yet this may eliminate years of problems in subsequent production of the castings. Considerable cost savings in terms of reduction of scrap and customer returns can be realized. This paper will explain the principles and the use of computerized tools, as well as present multiple examples where these methods have been successfully applied in actual foundries to improve quality and reduce defects.

Authors: Larry Smiley and David Schmidt
Finite Solutions, Inc.
4769 Highland Park Dr
Slinger, WI 53086-9441 USA
Tel +1 262-644-0785
Fax +1 262-364-2537
Email Dave@finitesolutions.com