October 2012
ASM/AFS Meeting
Monday, October 15

Effect of Mn and S on Strength of Grey Cast Iron

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Wixom, MI

Date: Monday, October 15, 2012
Location: Eastport Banquet and Meeting Center, 703 Mariners Way, East Peoria, IL61611
4:30-5:30 Social Hour
5:30-6:00 Dinner
6:00-7:00 ASM Technical presentation

Free Parking is available. The cost of dinner is subsidized and will be $18 at the door ($5 students). ASM/AFS members may purchase a ticket for $40 that will cover four dinners throughout the 2012-2013 season. **RSVP to Trent Jacobson (Jacobson_Trenton_G@cat.com or 309.675.0843)**

Abstract: AFS is funding a new research program to investigate the relationships between Mn and S in gray cast iron. This presentation will review the prior art and research with the following objectives:

- Characterize the relationship between S, Mn and the strength of cast iron in a wide range of section sizes
- Develop the correlation between Mn, S and the fineness of the graphite structure
- Develop a better understanding of the multiple roles of S in the nucleation and eutectic solidification processes in cast iron.

Ultimately, optimized balance of S and Mn concentration will help produce high-strength grey iron for better performance without the use of expensive alloy elements.

Speaker: Richard B. Gundlach is Senior Metallurgical Engineer at Element Materials Technology – Wixom (formerly Stork CRS and Climax Research Services) in Wixom, MI. Prior to co-founding Climax Research Services in 1987, Rick was a metallurgical engineer and research supervisor for 18 years at Climax Molybdenum Company (AMAX) in Ann Arbor, MI. Rick is a widely recognized expert in the field of casting metallurgy. Rick has published and consulted in the areas of cast aluminum; gray, ductile and white irons; austempered ductile iron and cast steels; thermal fatigue; and abrasion resistance. He has authored and co-authored more than 50 publications. Rick is a recipient of the Award of Scientific Merit and the Howard F. Taylor award by AFS. Rick is a member of ASM International, where he served as Past Chairman of the Detroit chapter. Rick was elected to the ASM International 2003 Class of Fellows, and he received the John H. Shoemaker Award of Distinction from the Detroit chapter in 2003. He also holds two patents on abrasion-resistant white iron alloys.