Technical Information Sharing

Reducing Carbon Monoxide and Carbon Dioxide in Green Sand Molding Systems

Hill and Griffith have completed a detailed study of the emission characteristics of green sand using our Aqua Part® II with Graphite at the CERP research facility. The information will be presented at the upcoming AFS Casting Congress in Saint Louis (AFS Paper Number 05-125). In brief: the study was completed on a totally seacoal free green sand containing cold box cores and with the application of our Aqua Part® II with Graphite. One of the most significant conclusions was the reduction of carbon monoxide and carbon dioxide. In environmental circles, this is significant! The following are the conclusions stated in the upcoming paper:

The results from the evaluation of this new greensand formula (without seacoal), phenolic urethane cores with additives and pattern spray with graphite show that:

1. *Casting surface quality is comparable to that achieved with a traditional greensand with seacoal.*
2. *Volatile organic compounds as measured by US EPA Method 25A were reduced by 51%.*
3. *Hazardous air pollutants as measured by US EPA Method 18 were reduced by 42%*
4. *Carbon monoxide emissions were reduced by 37%.*
5. *Carbon dioxide emissions were reduced by 40%.*

Overall, the data clearly show that significant emission reductions can be achieved without sacrificing casting surface quality.

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