Quaker Chemical Presents to Industry on Compacted Graphite Iron (CGI) Machinability

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Quaker to present research findings on 'Lubrication & Machining of Compacted Graphite Iron' at the upcoming STLE Central Illinois Section Meeting in Peoria, IL

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Quaker Chemical -- a global leader in process chemicals -- has been actively investigating the machining of compacted graphite iron (CGI), and the influence of metalworking fluid properties on CGI machinability. Their findings will add to many industries' current level of understanding relative to the challenges and potential solutions to be considered in machining of CGI.

CGI has higher strength properties relative to those of standard gray cast irons. This enables the production of thinner walled and subsequently lighter weight engine components such as cylinder heads and engine blocks. When utilized in the production of cylinder heads, the higher strength of CGI is capable of sustaining increased combustion chamber pressures, which result in increased engine efficiency and reduced engine emissions levels. However, there are current limitations in the use of this metal, due to its low machinability, which gives rise to significant increases in tool wear rates relative to those experienced in the machining of gray cast iron. "For this reason," explains Dr. Robert Evans, Research Scientist in Quaker's Metalworking Laboratory, "a deeper understanding of the machining properties of CGI, along with an understanding of the metalworking fluid properties required to reduce wear and extend tool life in CGI machining, would greatly benefit industry."

Given that there are both compositional and microstructural factors that are responsible for the low machinability of CGI, Quaker's metalworking research has been directed towards the study of lubricant additives which when used in the proper metalworking fluid, can enhance the machinability of CGI and yield reduced cutting tool wear rates.

To share more detailed findings of Quaker's study on "Lubrication & Machining of Compacted Graphite Iron", Dr. Evans will present the results of his studies at the Society of Tribologist and Lubrication Engineers' (STLE) Central Illinois Section Meeting Wednesday, March 2, 2011 in East Peoria IL, USA. For more information on Quaker Chemical, please visit quakerchem.com.

Quaker Chemical Corporation is a leading global provider of process chemicals, chemical specialties, services, and technical expertise to a wide range of industries -- including steel ,aluminum, automotive, tube and pipe, coatings and construction materials. Quaker's product, technical solutions, and chemical management services enhance their customers' processes, improve their product quality, and lower their costs. Quaker's headquarters is located in Conshohocken, Pennsylvania.

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