



» September 2013

for stopping by our booth. We look forward to seeing you again next year at the PM 2014 World Congress in Orlando, Florida.

We were there: PowderMet 2013!



From left to right: Lydia Aguirre, Joel Thompson, François Chagnon, Greg Lavallee, Mark Kesterholt, Julie Campbell-Tremblay and Bob Wang.

From June 25th to 27th, RTMP was at the Sheraton Chicago Hotel & Towers, USA to attend the 2013 PowderMet Conference organized by the Metal Powder Industries Federation MPIF.

Participants had the opportunity to meet with over 175 industry experts from all over the world, visit more than 100 leading Powder Metallurgy supplier booths and assist numerous presentations which showcased recent field related technological advances.

RTMP had the opportunity to present three papers: *Development of Optimized Diffusion-Alloyed Powders*, by Julie Campbell-Tremblay - Product Development Engineer; *Comparison of Various Lubricant Systems and Compaction Methods for High-Density Applications*, by Lydia Aguirre - Product Development Researcher; and *A New Approach to Lean Alloy PM Steels*, by François Chagnon, Principal Scientist.

The team had the chance to meet with many of its global customers which included a significant representation from Europe. Thank you for your continued support and

EuroPM 2013 in Gothenburg, Sweden – September 15-18



Like every other year, RTMP will be present at the EURO PM2013 Congress and Exhibition in Gothenburg, Sweden from September 15th to 18th. This leading European annual Powder Metallurgy event attracts in the order of 700 participants from all over the world including many of our valuable customers.

Euro PM2013 focuses on specific sectors of the PM industry, including Structural Parts, Hard Materials and Diamond Tools, Powder Injection Molding (PIM), Hot Isostatic Pressing (HIP) as well as new PM processes and applications. Organized and sponsored by the European Powder Metallurgy Association, nearly 250 oral papers and posters will be present at this event.

Our colleagues from R&D and Technology Centre will present 3 papers, one on Monday afternoon Session 6 on Lubricants entitled *Evaluation of Innovative High Performance Lubricants for Compaction of Complex Powder Metallurgy Parts*, followed by a paper on the *Effect of Lubricant Particle Size Distribution on the Processing and Properties of P/M Ferrous Parts* and finally on Tuesday morning (Session 14 on Sintered Steels) a paper on *Properties of Various Malleable Iron Powder Grades*. Looking forward to seeing you there. Please come and visit us at booth 9!



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Investments in Additional Supply Capability Continuing

Due in part to stronger than expected demand by the powder metal industry, particularly in North America and Asia, we have experienced some regrettable late shipment of product in and around the summer maintenance shutdown of our Tracy powder production facility. In order to support the continued growth of our customers we have undertaken a number of additional short term projects to further debottleneck our production facility in Tracy.

Additionally we are pleased to advise a further investment, and start of construction at our QMP Suzhou production facility that will also result in the increased supply of powder. A building addition which will house a first annealing furnace with a capacity of 8,000 mt of annealed powder per annum is now under construction with start of production planned for during the second quarter of 2014.



From left to right: James Xia, Hongfei Gu, Bob Wang, Greg Lavallee and David Gagnon

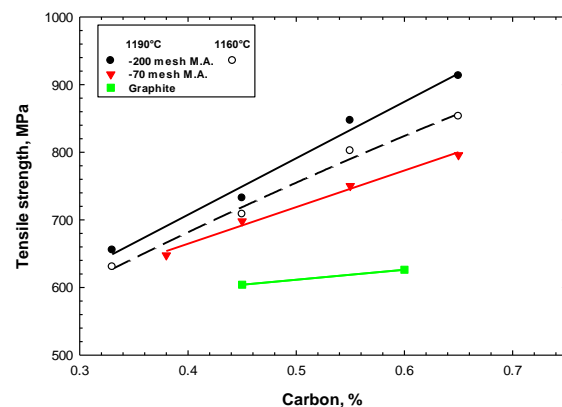
Highlights of MPIF Papers: New Approach to Lean Alloy PM Steels

A new approach was studied to develop lean alloy PM steels. This production route involves the use of Mo low alloy steel powders admixed with ferromanganese, ferrochromium and a carbon master alloy as carbon source. The latter was produced by water atomization of a 2% C-1% Si melt.

Fe-xC-0.9Mn-0.6Cr-0.5Mo materials were evaluated using two particle sizes of master alloy sintered at 1160 and 1190°C and the results were compared to materials having the same Mn, Cr, Mo concentrations but produced with free graphite.

Materials produced with the carbon master alloy shrank during sintering while those made with graphite grew. For similar carbon concentration, tensile properties and fatigue strength of the new materials were respectively 20% (see figure below) and 15% higher than those produced with graphite.

Raising the sintering temperature and/or using finer master alloys also improved mechanical properties.



François Chagnon, Principal Scientist

