



## Dauber Company, Inc.

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*Welcome to DCI's POWERMELT. We hope this quarterly newsletter will provide helpful information about silicon carbide, its applications, and our company.*

### Inside this issue:

MMC Introduces POWERMELT Injection Equipment	1
POWERMELT Carbon Bricks	1
Meet the POWERMELT Injection Team	2

In the next Issue of *POWERMELT* watch for additional information about DCI's SiC Injection Program, Carbon Bricks, and the advantages of 46% SiC brick.

# POWERMELT

## MMC Introduces POWERMELT Injection Equipment

Although the concept and the practice of injecting SiC and other materials through the tuyeres into the melt zone of a cupola have been around almost as long as cupola melting, recent advancements in materials and equipment have made it a process that is finally receiving a lot of attention in cupola shops around North America and beyond. Many of these advancements have been spearheaded by DCI, Inc., and the new injectors available through our strategic partner Mennie Machine Company (MMC) are no exception.

DCI began several years ago working with a few of its customers, specifically cupola shops buying its SiC briquettes, to create two proprietary injection-grade SiC products called *POWERMELT HP* and *POWERMELT XTRA*. These products are the undisputed leaders in the industry, presently consumed in greater volume than all others competitive products combined.

Continued on Next Page



## POWERMELT Carbon Bricks

As our friend and colleague George Haley says, "All coke is made from coal but not all coals can be used to make coke".

Although blast furnace coke can be made from a wide variety of metallurgical coals, foundry coke must be made from low volatility, low sulfur coals. As one might suspect, it's the foundry coke coals that are in short supply. When you couple the raw materials quality issue with a global steel industry producing at record levels and gobbling up the world's coke you have major supply and price issues.

DCI has been dabbling in the production

and sales of *POWERMELT* Carbon Bricks for the past two years. As foundry coke surpasses the \$350 net ton level and approaches the \$400 n/t mark, demand for DCI's *POWERMELT* Carbon Bricks has increased dramatically.

Although not a direct substitute for traditional foundry coke, *POWERMELT* Carbon Bricks can be used to average down the price of coke and provide an increased level of security.

If you are interested in learning more about DCI's *POWERMELT* Carbon Bricks please contact either John Redshaw or Skip Fristoe.



- SiC briquettes for cupola melting
- SiC grain for electric melting
- SiC experts for customer support
- ISO 9001 : 2000 Registered
- Central U.S. location provides 1-2 day truck deliveries
- Rail service available

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## Meet the POWERMELT Injection Team

When DCI's longtime customer, Waupaca Plant 2/3 Melt Manager Ernie Tesch, announced he was ready to retire he couldn't imagine just how busy he was about to become. Having carefully crafted **POWERMELT XTRA** and **POWERMELT HP**, DCI's



**Ernie Tesch**

proprietary injection-grade SiC products, DCI management saw a unique opportunity to enlist the help of the melter that pioneered this most recent interest in SiC injection. Ernie and DCI joined forces and the **POWERMELT Injection Team** was born.

Ernie's expertise gained during 35 years of running the cupola at ThyssenKrupp Waupaca Plant 2/3 has al-

ready proven useful at several of DCI's key accounts. He probably has more experience than any other living melter with SiC tuyere injection, and Ernie has outlined the many benefits a cupola shop can expect to see (see briefs on Injection Benefits).

All of Ernie's knowledge and experience, however, is difficult to apply effectively without a means of transporting the SiC from the bag, through the tuyeres, and into the melt zone. Enter David Mennie of Mennie Machine Company (MMC). Mennie Machine, DCI's equipment partner, boasts mechanical, electrical, and PLC engineering on staff; this capability makes them the most effective injector fabricator available.

In addition to designing, engineering, and fabricating injectors, Mennie has applied its expertise to its own shop as well. With a fully automated and robotic machine shop, MMC has won contracts with some very impressive companies for whom they machine a wide variety of castings.

DCI's John Redshaw has

spent a career selling and marketing SiC. In addition to seven years with DCI, John spent 23 years with Exolon-ESK Company. In addition to his business development and sales duties for DCI, John keeps in daily contact with a network of global SiC experts in order to stay on the cutting edge of SiC developments and trends. In doing so, DCI's management team is able to keep DCI's customers informed about global developments that will impact their operations long before they would otherwise see these on their own radar screen.

Skip Fristoe joined DCI in 2005 after managing the powders and industrial distribution segments for Exolon-ESK Company. He also worked in business development in the semiconductor and photovoltaic industries selling SiC and SiC-based slurries. At DCI, Skip covers Mexico and the Atlantic seaboard as well as assisting as needed at foundries across the US. Skip is a key member of the DCI business development team and the **POWERMELT Injection Team**.

## MMC Introduces POWERMELT Injection Equipment

### Continued from First Page

To compliment the success generated with **POWERMELT**, DCI has teamed up with MMC, a highly sophisticated machining and fabrication company. MMC called on its in-house engineering and in-house fabrication to design and build an injector that is available for demonstrating the benefits of utilizing DCI material and expertise. Together, **POWERMELT** SiC products, including **POWERMELT** Injectors, and the expertise offered by DCI Technical Consultant Ernie Tesch comprise our very complete **SiC Technology Package**.

If your cupola shop is interested in meeting the **POWERMELT Injection Team** or in scheduling an injection trial please contact your DCI representative.

### POTENTIAL BENEFITS OF INJECTION

- Chemistry Control
- Tap Temperature Control
- Refractory Lining Benefit
- Removal of 75% or 50% FeSi Lump
- Removal of a Portion of SiC Brick (reducing cement)
- Coke Benefit
- Slag Reduction
- Cleaner Stack
- Cleaner Iron
- Reduce Cupola Back Pressure
- Increase Cupola Melt Rate
- Reduces Mn Loss
- Reduces Limestone Usage