



# SFSA CASTEEL REPORTER

Steel Founders' Society of America

a monthly publication  
serving SFSA steel casting industry Members

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## February — 2008

### **Casteel Commentary Highlights:**

Economically worrisome conditions prevail. The collapse of sub-prime lending, significant drops in equity markets, strong action by the Federal Reserve, and the fast politically motivated stimulus package point to the challenges we face. This month's Casteel Commentary takes a more extended look at the current market conditions and proposes that the near term demand may be softer than expected. The medium term outlook though has improved dramatically and we will likely see the strongest market for steel castings in human history.

### **Brazil Study Tour**

SFSA members will tour a series of foundries in Brazil in April. Details have been posted on the SFSA web site at <http://www.sfsa.org/meetings/brasil.html>

### **Innovation**

Improving impact properties for meeting Charpy impact requirements in carbon and alloy steels can be challenging. There are a number of issues that can help to achieve these properties. Sulfur reduces the impact toughness directly while phosphorus reduces toughness at higher temperatures. Reducing sulfur and phosphorus are necessary to improve toughness. Carbon is needed for strength but anything over the minimum required to meet the strength requirements will degrade the toughness. Nickel is the most powerful normal alloying element available to improve toughness and allowing the maximum permitted will be helpful. Molybdenum resists embrittlement during heat treatment and is generally

helpful. A quench and temper heat treatment maximizes toughness for a grade. Embrittlement that molybdenum helps avoid occurs most rapidly around 900F. To avoid degrading the toughness, the temper should be done above 1000F and to get the best toughness, the parts should be quenched from the temper to avoid slow cooling through this embrittling temperature range.

Other things can help but less. HIPping the higher strength grades can improve toughness. Homogenizing treatments of long holds (>10hrs) at higher temperatures (>1700F) can provide a slight improvement. Cryogenic treatments, double tempers, and multiple austenitizing treatments can also result in improvement.

### **Specification Note**

ASTM grades often require mechanical properties. In particular, many grades require a tensile test from each heat. Most grades have mechanical properties formulated to make sure the components perform as expected. For this reason, ASTM grade often have a critical yield strength requirement. If the test bar is sound and the composition and heat treatment are correct then it is easy to meet the ultimate tensile and elongation requirements if the yield strength is met. If a plant is able to meet the yield strength and ultimate strength but not the elongation, it is often the result of an unsound test bar. Unsound test bars are to be discarded and a sound bar use for the properties. If the elongation is well below the requirements in common carbon and alloy grades but the yield and ultimate meet the requirements

the test bar should be carefully examined. One clue that the bar is unsound is the ratio of the ultimate to the yield strength. Compared to sound bars this ratio will fall for unsound bars. Common causes of unsound bars are inadequate insulation on the riser, a short poured test block, or a marginal test block design.

### **Equipment Needed**

A member is looking for a 10,000+ amp wet mag power source. (Magnaflux CRV). If you know of a good contact for a used model, let me know.

### **CRM Survey Results**

SFSA has conducted a survey of casting producers and their use of Customer Response Management tools and receive 22 responses. A full copy of all results is provided to those who answer the survey. When SFSA sends out an email survey a summary is provided in the newsletter or folio for all members but the detailed responses are only provided to participants. The questions posed to the plants were and a summary of responses are:

Most respondents did not use CRM but had some combination of internal procedure, custom software (spreadsheets or financial packages), and production control documentation.

1. How do you record customer requirements?

Job Tracker-10

Sales Department/Purchase Agreement-4

Software-11

The interaction of sales and production is used to try and meet customer requirements. Job trackers or production instruction sheets are provided frequently. In any case it appears that most still rely on sales interaction and input to recognize and meet special customer requirements.

2. Do you use a CRM software package?

No- 13

Yes- Internal program-6

B&L-2

Quadrem

Goldmine by Finite Solutions

As can be seen, few steel foundry respondents have adopted a packaged CRM software solution. Many use custom software for order tracking, quality control and production planning but this is developed from RFQs or purchase documents.

3. Are you happy with the software that you use?

Software is a tool and depends on effective use

Yes-7

No-2

Most respondents were happy with their custom solution to tracking requirements. It is not clear that they track customer satisfaction of their own responsiveness to customer needs.

4. Does your CRM system allow all departments to share customer specific information?

Yes-12

No-2

Because there is limited adoption of CRM as a programmatic or management tool, only limited input from the customer is available throughout the organization. It is true that most plants allow all to see the purchase, schedule or quality requirements; we do not capture or communicate the customer's responses.

5. Do you feel the CRM system increases customer satisfaction or is it just a tool to track the sales effort?

Satisfaction-9

Tool-3

To the extent we communicate the customers' requirements; it is an effort to satisfy them. So the internal systems are aimed at ensuring compliance with all the

requirements expressed by the customer. The systems though are passive, trying to meet the purchase requirements but not necessarily gaining the customers' perspective. Some plants seek to remedy this shortfall through regular customer surveys or interviews.

6. Is your system used company wide?

Yes-12

No-1

Purchase, quality and schedule requirements are shared generally. Customer feedback is limited and so this question is not clear.

### **Market News**

SFSA Trend Cards for November show mixed results with carbon and low alloy

### **Casteel Commentary**

The US Federal Reserve cut key interest rates in an unscheduled meeting by a surprising 0.75%. This was done to try to halt a market downturn anticipating a painful recession precipitated by the collapse of the sub-prime market. Equity markets have stabilized but have not improved on this strong signal sent by the Federal Reserve. Does this drop in interest rates bode well for our industry? Is the collapse of the sub-prime market and its drag on the equity market going to hurt us? Is the likelihood of a slowdown or even sharp recession going to hit us with reductions in demand and pricing?

If the view of the market that the sharp contraction of the 2001 through 2003 period was the liquidation of obsolete capacity installed in the late 1970s is correct and the growth of the global market for commodities has increased demand so it exceeds current production supply; then this collapse of the credit arrangements in sub-prime lending makes sense. During the 2001-2003 recession in manufacturing, fiscal and monetary policy was politically motivated to stimulate the economy. Money was made available through both low interest rates and profligate spending. Economic uncertainty limited the destination of this money. Since the manufacturing economy was seen as obsolete and global capacity was thought to be adequate, the money looked for a home. Since the commercial options were perceived to be risky and unattractive, financial institutions went for a sure thing, housing. In order to improve the return on mortgage lending, the industry developed instruments to securitize bundles of mortgages and parse them into investment instruments. This removed the incentive from the originating lender to ascertain the ability of the borrower to repay. When these securities began to unravel, they were part of portfolios of other securities. These other securities were liquidated to meet the obligation of the owners and this produced tremendous pressure downward in equity markets. Too much money and too much credit chasing too few investment options created the housing bubble.

In the meantime the economic recovery and global growth increased the demand for commodities. Oil, gold, scrap, nickel, copper, etc. were at historically high prices. The excess of money in the system provided plenty of liquidity for buyers to purchase these commodities at historically high prices. While the profitability of producers was dramatically improved, their

castings showing healthy gains in booking and shipments while high alloy products show significant declines. The upward trend is supported by the improvement in the Census numbers showing improvements in shipments and orders for iron and steel castings. Orders for non-defense capital goods and commodity prices suggest continued robust demand. Steel shipments were down in November.

The general business conditions, likelihood of recession and prospects for our industry are covered in more depth in this month's Casteel Commentary. More market news is available in the SteelGuru document on the Casteel Reporter web page.

long period of over capacity tempered any capital investment. Demand for capital equipment improved dramatically but mainly to increase and improve current operations to maximize profitability. Too much money and too much credit could not be applied were it was needed, to increase manufacturing production of basic commodities.

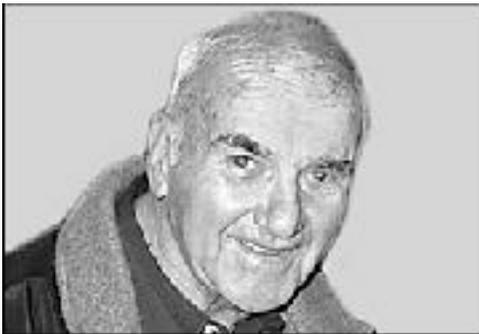
The rationalization of the market distortion of excess credit and liquidity in the housing market will challenge the financial market. The irony is that excess credit and easy money will be the solution of the problem of excess credit and easy money. In the short term, lower interest rates mean that market conditions are soft and current demand may be weaker than expected. The possibility of lowering interest rates further even in the light of inflation represents a real concern about underlying economic conditions. For this reason the slowdown in the beginning of 2008 may be sharper and more prolonged than expected.

On the other hand, lower interest rates and easy money will provide the funds necessary for continued high prices and strong demand for commodities. The excess money rattling around in the economy will eventually find its way to needed capital equipment investment. The combination of lower interest rates and an economic stimulation package may not be prudent economic policy but it will provide the future liquidity we need in our industry to see improvements in pricing and in demand. Finally some of this money will find a home in new plant and equipment. Some of this excess money will become our own future equity.

The stage is now being set for the strongest demand for steel castings globally in human history. Our region will not reap the full benefit of this demand but we need now more than ever to plan for a strong and profitable future.

## Raymond

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**Schimenz, John F. "Huntz"** Welcomed home January 31, 2008, at the age of 83 years. Beloved husband of Eleanore (nee Mickowski) for 61 years. He will be fondly remembered by his children; Christine Schimenz, Johnna (Bill) Hartmann, Mark (Marie) Schimenz, Guy (Kari) Schimenz, and Matthew (Ellen) Schimenz. Loved and cherished grandfather of Vincent (Nicole), Nicholas (Megan) and Emily Vitrano; Brad (Katie), Laura, Will and Nick Hartmann; Irene, Myrna, Mario and Jose Schimenz; John A., and Charlie Schimenz; John M., David, Zach,

Jake, Craig, and Mattie Schimenz. Dear great-grandfather of; Ella, Max, and Olivia Vitrano, Rojelio and Vanessa Woods, Austin Pederson and Isaac Schimenz. Also survived by nieces, a nephew, other relatives and friends. John served in the Navy during WWII. He worked for over 40 years at the Falk Corporation as a Foundry Works Manager and he was a player-manager for the Falk Semi-Pro Baseball team for over 20 years. He served on the Board of Directors for Wisconsin Old Time Ball Players Association and was Treasurer for the West Allis Handgun League. Visitation, Saturday, February 9 at Our Lady of Lourdes Catholic Church, 3722 South 58th St., Milwaukee from 9:00 AM until 12:00 noon followed by Mass of Christian burial at 12:00 noon. Private interment at St. Adalbert Cemetery. In lieu of flowers, the family will use donations to further dementia research and fund athletic scholarships at the high school level. SCHRAMKA FUNERAL HOME Milwaukee 414-464-4040

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# STEEL FOUNDERS' SOCIETY OF AMERICA

## MEETINGS CALENDAR

### 2008

March

6/7

Safety/HR Meeting

Berkeley, CA

19

P900 Armor Meeting

St. Louis, MO

27

T&O Meeting

San Juan Del Rio, Mexico

April

6-16

Foundry Study Tour

Brazil

September

9-6

SFSA Annual Meeting

Charleston, SC

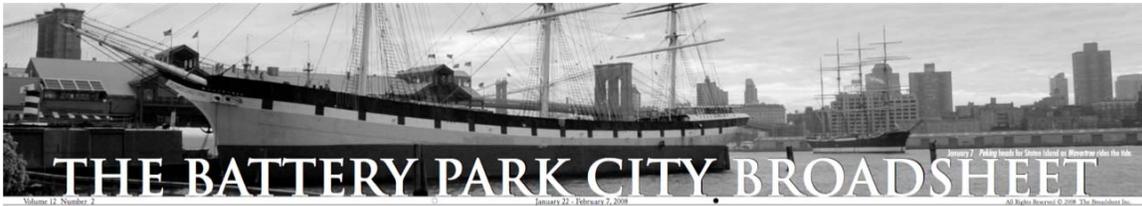
December

10-13

National T&O Conference

Chicago, IL

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## IT HAPPENED

# JANUARY 16 WAVERTREE GETS HELP FROM WISCONSIN



**Pillars of the Community:** Raymond Monroe of the Steel Founders' Society of America, Seaport volunteer and marine surveyor Charles Deroko, Phillip Harrison of Penumbra Design, Professor Kyle Metzloff of the University of Wisconsin Platteville and Mary Ellen Pelzer, director and general counsel of the South Street Seaport Museum gather with one of the *Wavertree's* unique palm pillar castings. As Mr. Monroe described it, he gets "three calls a week" from people wanting unusual castings and says most of them are "nuts." But when he took a call from Phillip Harrison of Penumbra Design, collaborating with marine surveyor Charles Deroko on the *Wavertree* restoration project, they began working together to produce custom pillar palms needed to support *Wavertree's* horizontal deck beams. With help from the Steel Founders' Society of America and an Industrial Studies class at the University of Wisconsin Platteville, they fabricated the pillar palms for the 1885 ship's \$6-million restoration.