



# SFSA CASTEEL REPORTER

Steel Founders' Society of America

a monthly publication  
serving SFSA steel casting industry Members

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## November — 2006

### Casteel Commentary Highlights:

At the International Foundry Forum this year, a European Banker who specializes in manufacturing presented an analysis of the foundry industry and the need for capital investment and technology innovation. In this month's Casteel Commentary, several graphs from his presentation show the needs of the foundry industry.

### SFSA Internship Program

SFSA sponsors a scholarship for interns employed in the steel casting industry. The scholarship is from the Schumo Foundation and is presented at the SFSA T&O Conference. We are soliciting sponsors for interns for this program in 2007. The information and requirements are attached to this newsletter.

### Equipment Available

Occasionally we will run not only Men available but also equipment available. If you have some equipment that you would like to list in the Newsletter for members to purchase from you please send me a brief description that we can use in coming newsletters.

### SFSA China Tour

The SFSA China Tour was quite successful, allowing participants to see what the industry was like. It was an eye opening exercise. Details of the visit will be presented in the future but it might be useful to share some quick impressions. China is likely to become and remain a competitor in the global marketplace for steel castings. One plant we saw had the leadership and

skills to compete. Most plants we saw were not up to the standards needed for competition, either in capital investment, manufacturing skill, quality management, or basic working conditions. Many of the numbers reported to us were clearly not correct and overstated the capability of the plants. Communication and cultural barriers will make successful collaboration difficult for joint ventures or customers seeking steel foundries in China.

### Technical & Operating Conference

The SFSA Technical and Operating Conference is less than a month away. Registrations have been strong and we expect a strong meeting. Our Hotel cutoff is past but if you wish to attend the registration materials are here:

<http://www.sfsa.org/sfsa/toconf>. Let us know if you have difficulty we will try to help make arrangements for your attendance.

### Technical Note

Many Companies have adopted 6 $\sigma$  as an approach to quality. Many steel foundries have struggled to get trained or simply do not have the resources to use the program. As a part of AFS's Steel Division, Dr. Roshan has arranged a series of online training seminars. This last month, Sony Mascreen presented a seminar on 6 $\sigma$  training. This training is available on the web and the link is located here:

<http://www.castingdefects.com/recordedsixsixigma1.htm>

## **Defense News**

SFSA member Metaltek International's Wisconsin Investcast facility in Watertown, WI provided rapid turnaround on prototype castings for Benét Laboratories this past summer. Benét was interested in developing a single piece casting design to replace a four piece multi-metal fabrication. The part is used for cleaning the tube of an 81 mm mortar. The current design is difficult to manufacture; thus, carries a high price tag. Benét contacted the American Metalcasting Consortium (AMC) to provide technical input on casting the part and to identify sources.

Benét was interested in using their SLA machine to produce QuickCast patterns to investment cast several prototypes for demonstration and testing purposes. The AMC contacted Wisconsin Investcast, who accepted the mission and went above and

beyond the call of duty by producing the parts at no cost. The CF8M castings were made and ready to be shipped in an outstanding two weeks. Wisconsin Investcast effectively communicated the process with updates and digital pictures. They truly represented the capability and professionalism of the metalcasting industry. This activity directly impacts our warfighters as mortar systems are used extensively in Iraq and Afghanistan.



## **Specification Note**

Suppose a steel foundry certifies a heat of WCB and reports a carbon content of 0.22%. The customer decides to do a product check analysis and analyzes the carbon content to be 0.31% and is trying to reject the heat as unacceptable since it exceeds the maximum carbon content of 0.30% of the specification. You respond that due to variations in analysis there would be a difference between your reporting and his analysis. He responds by pointing out that his analysis is more than 0.029% ( $0.03 \times$  carbon limit of  $0.30+0.02$ ) different than the reported analysis and exceeds the product analysis tolerance in table 1 of ASTM A703 that governs A216. Is the product analysis conducted by the customer out of spec?

No, the product analysis tolerance increases the specification limit and is not a measure of how close the product analysis should be to the heat analysis. While you would undoubtedly continue to have a commercial issue with the customer, the specification would not be violated given the numbers reported since his product limit would be the specification limit 0.30% plus the tolerance 0.029% or 0.329% greater than his 0.31%.

## **Market News**

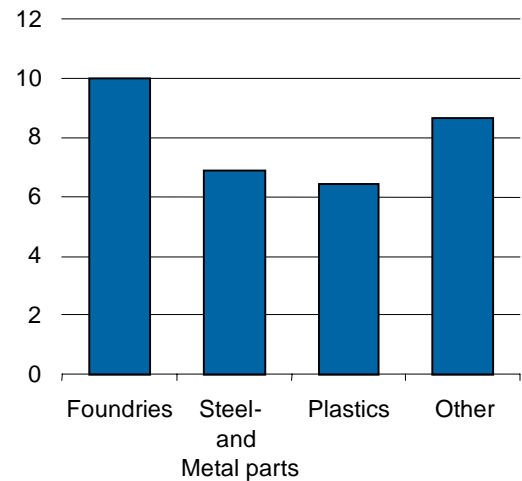
Business levels remained strong in August but show some signs of slowdown. Backlog for our industry has begun to fall slightly. The three-month average for bookings is below shipments but the August numbers are quite strong. The Census numbers for ferrous foundries and capital goods show continued strong demand. Commodity prices have fallen for some materials but are not low enough to slow investment in added capital equipment. Slowdowns in steel production and demand are widely reported but are not evident in the report from AISI on shipments. More details are in the SteelGuru document available on the Casteel Reporter web page.

## Casteel Commentary

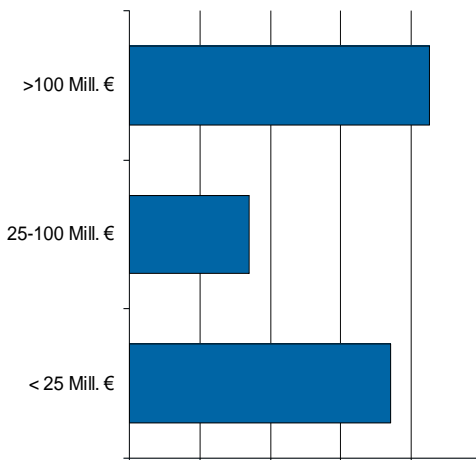
Investment is essential to the future of the steel casting industry. Low profitability and stable pricing has reduced the ability of our industry to adequately invest for years. As we look forward to the future, we will need to invest both in plant capabilities and new technology.

At the International Foundry Forum 2006, a banker from IKB presented an analysis of foundry industry performance and investment. This probably pertains more to larger iron and aluminum foundries serving automotive but should provoke us to think about our own position. The first graph here is the investment required as a percent of the turnover showing that foundries as a group are among the most capital-intensive businesses. This capital intensity implies that foundries are dependent on capacity utilization to achieve good profitability and are more vulnerable to price erosion during business slowdowns.

*Investment as a percent of turnover*

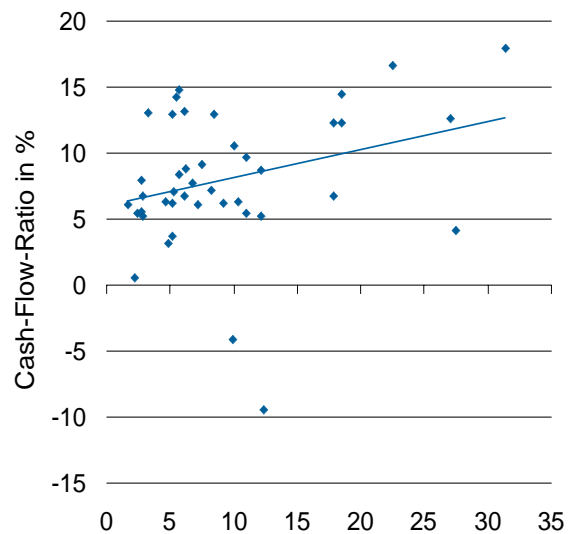


*Total Return on Capital*



The presentation also presented a graph on company size and total return on capital. The graph was used to show that it is possible to be a large supplier with good performance or a niche supplier with superior returns but that middle size companies have neither the size advantages of the large plants nor the opportunities of a smaller plant. For this reason, the recommendation was to consciously decide to be a profitable niche player or large supplier. Intermediate size plant need to have a growth plan to gain needed size or liquidate unprofitable capacity to gain desired profitability.

A final graph from the presentation shows the cash flow ratio as related to the investment ratio. There is a positive relation between cash flow and investment with successful companies typically investing 5 to 10% of their annual turnover. It is not clear if this correlation is causative or correlative. That is it is not clear that investing 5 to 10% will result in a positive improvement in cash flow or if companies that are successful at achieving positive cash flow also are successful in maintaining an adequate investment in their company.



In any case, it is useful to consider the demands for capital investment, company size and profitability as we analyze our individual market position. One other trend was presented at the IFF, OEMs are increasingly relying on their suppliers for needed technology. In analyzing the strength of the industry it was noted that we have strong technical skills and long term thinking characteristic of private and family owned companies. Our weaknesses are related, a general weakness in management and financial controls and an approach to investment based more on a feel for the business rather than careful financial analysis. When we look at the investment requirements and the technology needs of the marketplace, the need for our industry to continue to improve our financial position becomes crystal clear.

**Raymond**

# STEEL FOUNDERS' SOCIETY OF AMERICA

## MEETINGS CALENDAR

### **2006**

December

13/16

National Technical & Operating Conference, The Drake Hotel, Chicago, IL

### **2007**

December

12/15

National Technical & Operating Conference, The Drake Hotel, Chicago, I

**STEEL FOUNDERS' SOCIETY OF AMERICA  
BUSINESS REPORT**

| <b>SFSA Trend Cards</b><br>(%-12 mos. Ago) | 3 Mo Avg | Aug | July |
|--|----------|-----|------|
|--|----------|-----|------|

**Carbon & Low Alloy**

|               |      |      |      |
|---------------|------|------|------|
| Shipments     | 20.4 | 13.2 | 25.9 |
| Bookings      | 12.6 | 23.0 | -7.0 |
| Backlog (wks) | 10.2 | 9.8  | 12.0 |

**High Alloy**

|               |      |      |       |
|---------------|------|------|-------|
| Shipments     | 1.3  | 28.0 | -33.0 |
| Bookings      | -0.3 | 31.1 | -33.0 |
| Backlog (wks) | 10.3 | 8.7  | 11.1  |

**Department of Commerce  
Census Data**

**Iron & Steel Foundries (million \$)**

|             |       |       |       |
|-------------|-------|-------|-------|
| Shipments   | 1,677 | 1,659 | 1,697 |
| New Orders  | 1,713 | 1,644 | 1,753 |
| Inventories | 2,138 | 2,188 | 2,108 |

**Nondefense Capital Goods (billion \$)**

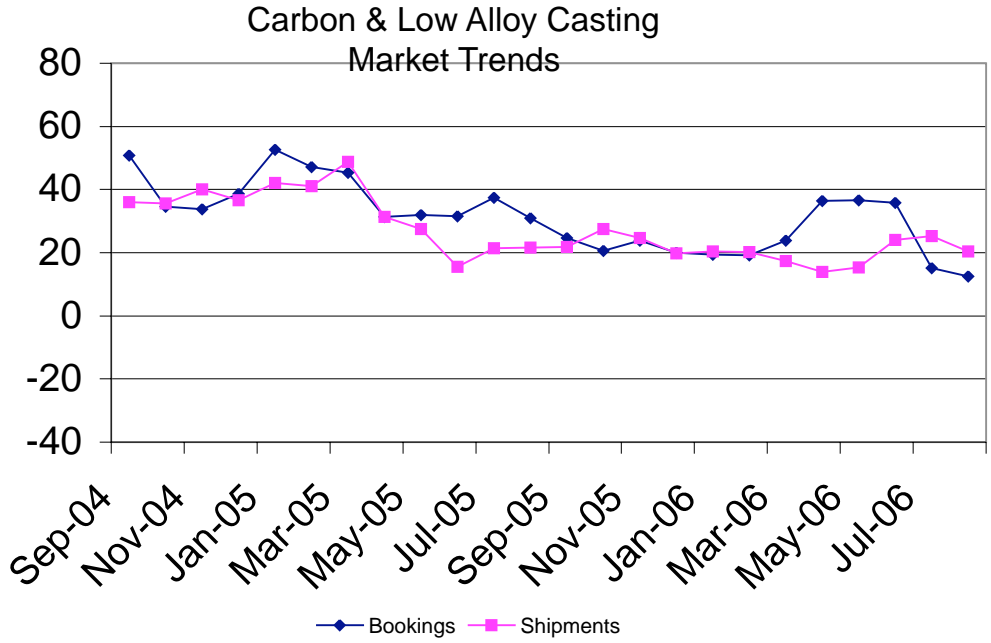
|             |       |       |       |
|-------------|-------|-------|-------|
| Shipments   | 67.0  | 68.0  | 66.9  |
| New Orders  | 76.2  | 85.4  | 71.9  |
| Inventories | 111.2 | 112.5 | 110.9 |

**Nondefense Capital Goods  
less Aircraft (billion \$)**

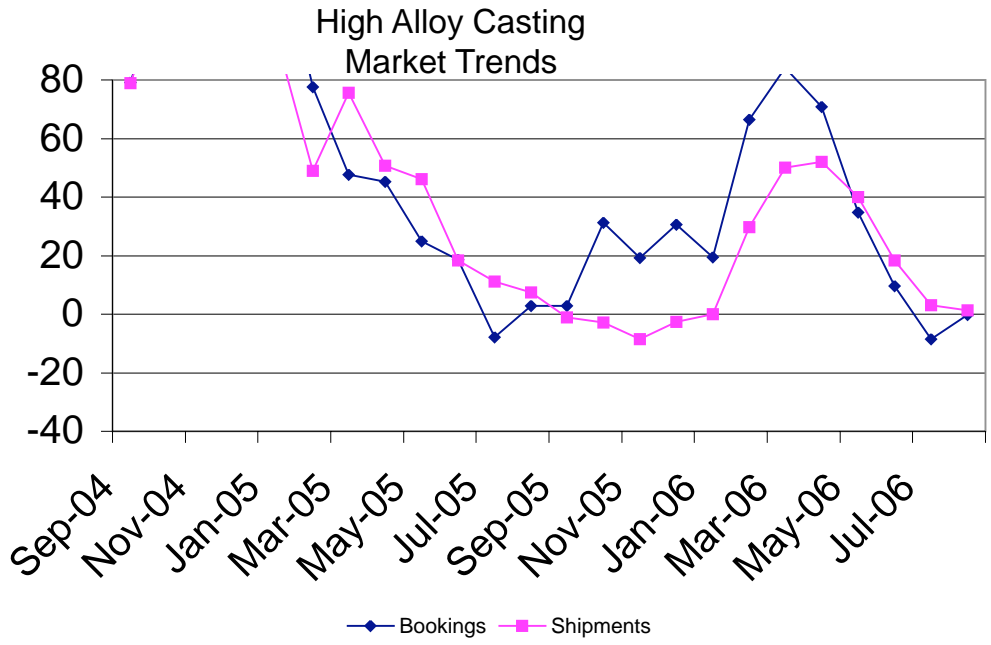
|                     |      |      |      |
|---------------------|------|------|------|
| Shipments           | 61.8 | 62.1 | 62.2 |
| New Orders          | 64.6 | 65.9 | 64.5 |
| Inventories         | 93.1 | 94.5 | 92.7 |
| Inventory/Orders    | 1.44 | 1.43 | 1.44 |
| Inventory/Shipments | 1.51 | 1.52 | 1.49 |
| Orders/Shipments    | 1.04 | 1.06 | 1.04 |

**American Iron and Steel Institute**

|   |     |     |     |
|---|-----|-----|-----|
| Raw Steel Shipments<br>(million net tons) | 9.4 | 9.6 | 9.0 |
|---|-----|-----|-----|



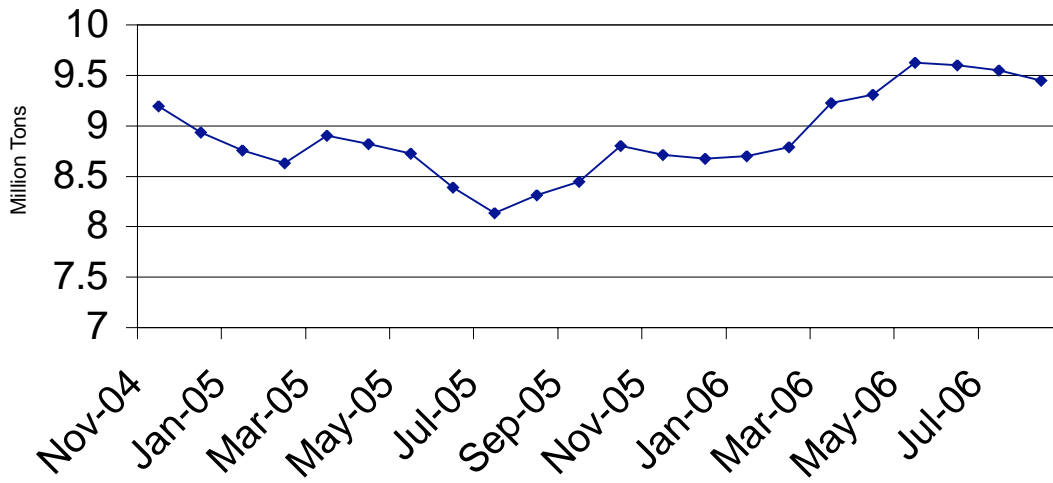
SFSA Postcards



SFSA Postcards

## Raw Steel Shipments

3 month average



AISI Data

## Iron and Steel Castings

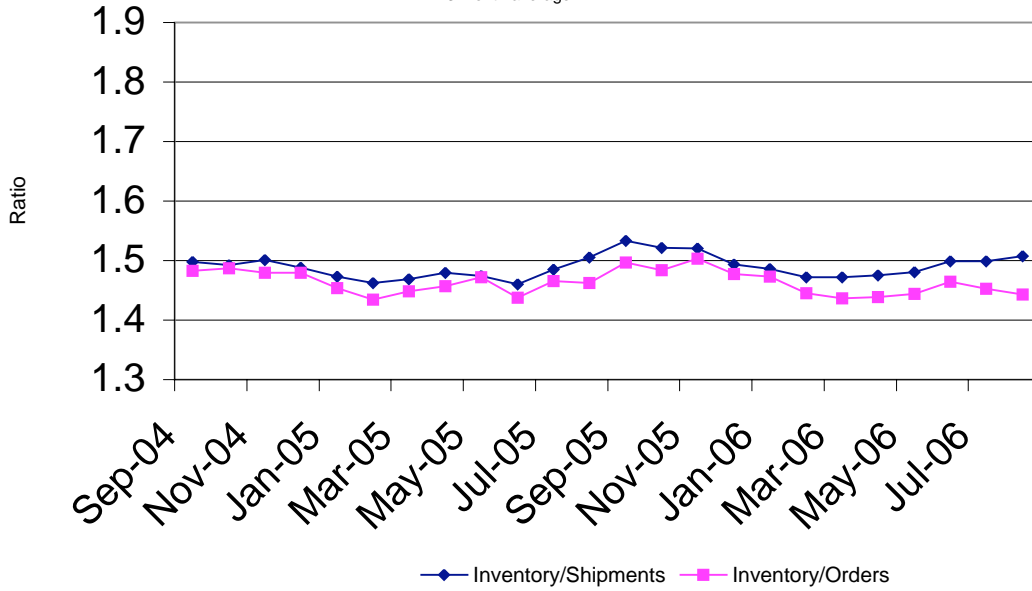
3 month average



SFSA

### Nondefense Capital Goods less Aircraft

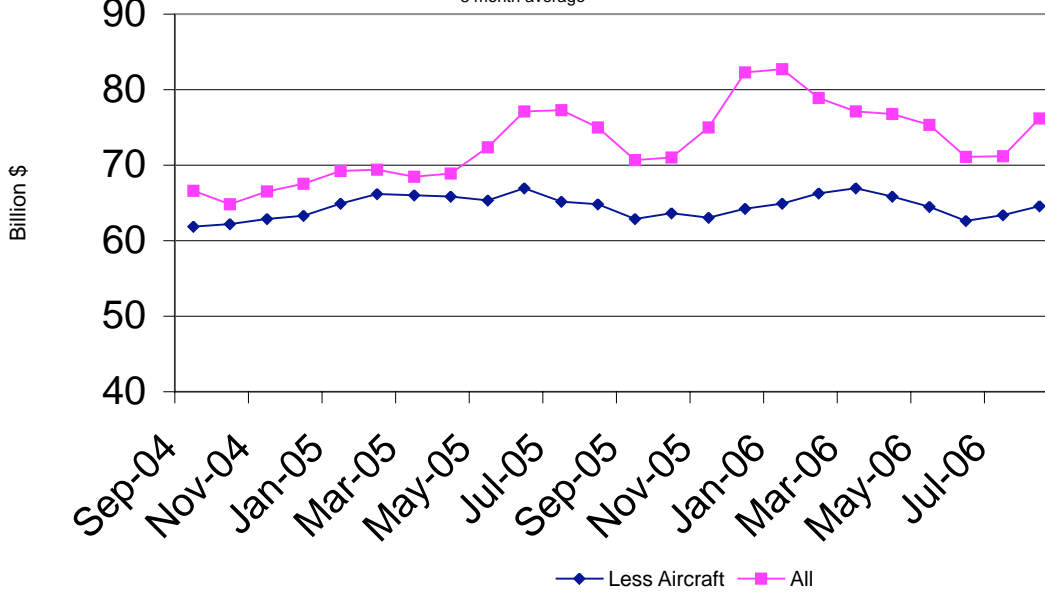
3 month average



Department of Commerce

### Nondefense Capital Goods New Orders

3 month average



Department of Commerce

# STEEL FOUNDERS' SOCIETY OF AMERICA

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Memo Re: SFSA Foundation Intern Program

To: Steel Foundries

From: SFSA Foundation.

The SFSA Foundation was established in 2000 to work for the future of our industry. Based on the support of Bob Schumo, SFSA past president, and the leadership of Scott Holman, SFSA past president, this Foundation was created with a broad charter to provide education and technical development for the future of our industry. We are actively soliciting support and will be asking for your contribution in the future. This memo is not a request for your financial support but to give you the opportunity to sponsor the SFSA Foundation Intern.

Our future depends on our ability to attract talent into the industry. One measure of SFSA success has been when member companies have been able to recruit students who have worked in steel foundries as part of our ongoing research program. The SFSA Foundation Intern program is an attempt to encourage companies to sponsor a student intern in the summer. When the student successfully completes the internship, the SFSA Foundation will recognize this achievement with a \$5,000 scholarship. This scholarship will help the sponsoring company secure the best intern. The company will commit themselves to supporting the student for a 10-week internship working on an engineering project for the company.

Attached is a short application. If you are interested in sponsoring a SFSA Foundation Intern, please fill it out and return it by December 21, 2006. If you want to submit a joint application and share the student with another plant, that is fine. The successful sponsor will be involved in the selection of the student.

Please call if you have any questions or need additional information.

I would encourage you to strongly consider this opportunity.

Thanks,

A handwritten signature in black ink, appearing to read 'Raymond Monroe', written in a cursive style.

Raymond Monroe

RWM

**Application for Sponsorship of the SFSA Foundation Intern**

Company Name: \_\_\_\_\_

Person: \_\_\_\_\_ Email: \_\_\_\_\_

Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

Short Description of the proposed engineering project for the Student: (50 words or less)

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
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\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

We are willing to support the student with a salary of \$\_\_\_\_\_ Per hour for at least a 10 week internship.

Are you willing to provide lodging for the student? \_\_\_\_\_

Which engineering discipline would be required? \_\_\_\_\_

If you are not selected would you still be interested in working with the Foundation to secure an intern?

\_\_\_\_\_

Please return this form to SFSA by December 21, 2006

Fax: 815 455-8241