



SFSA CASTEEL REPORTER

Steel Founders' Society of America

a publication serving
SFSA steel casting industry Members

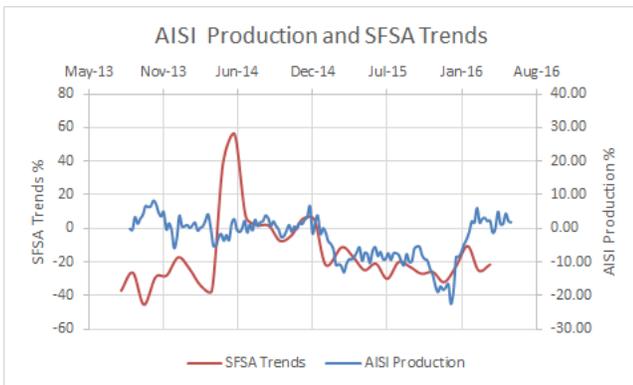
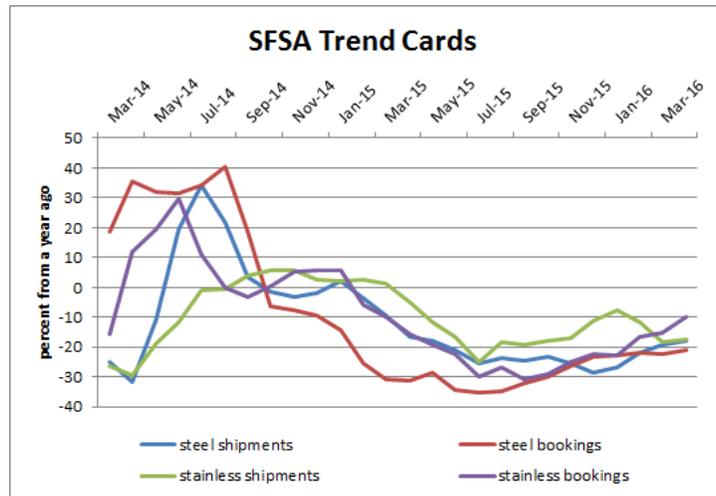
780 McArdle Drive Unit G, Crystal Lake IL 60014
Tel: 815-455-8240 Fax: 815-455-8241
<http://www.sfsa.org>

June — 2016

Market News

Like the steel mill industry, glimmers of improving market conditions are in this month's market analysis. While the shipments and orders are still off 20% from last year, the extremely sharp drop of late last year has moderated. April shipment of both steel and stainless steel castings are down 21 and 17 percent. Bookings are off much less, 15 and 0 percent. The backlog of production is still low, under 8 weeks.

Steel mill production is up sharply since the beginning of the year. Not only is capacity utilization over 75%, pricing in mill products has recovered from the bottom experienced



at the end of 2015. Hot rolled strip has a market price of around \$450 a ton at end of 2015 but in April 2016 was over \$550 a ton. Production on a weekly basis in the mills is up about 2% from last year.

Oil prices have also seen a modest recovery. Oil prices in January were below \$30 a barrel and are now stable around \$50 a barrel. Copper prices have not seen sustained improvement and remain around \$2 a pound.

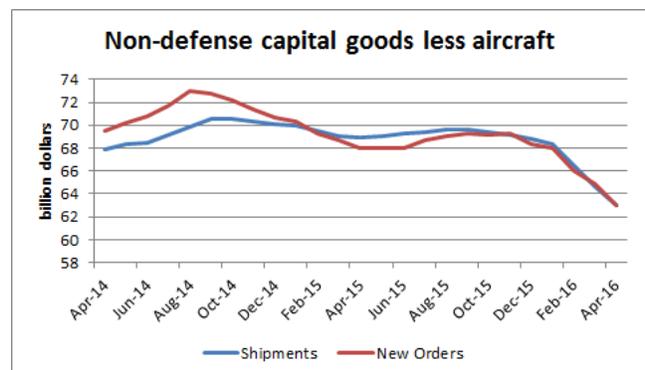
Non-defense capital goods also show continued weakness. Capital goods orders peaked in late

2014 at over \$70 billion and have since declined to \$63 billion. Construction has continued to show some improvements so the outlook is still for modest improvements in demand for steel castings through the balance of 2016.

Casteel Commentary

We are surviving in a rapidly changing commercial environment. Venerable foundries are closing. Senior experts are retiring. New employees are difficult to recruit, difficult to retain and difficult to understand. Customers are both less capable and knowledgeable and more demanding. Suppliers to our plants are facing the same severe conditions as we are and yet they are critical to our success.

How do we move forward? What are the critical leadership needs of our plants and our industry?



My understanding of leadership is the ability to accomplish a goal while inspiring a group. We need both to produce castings efficiently and profitably and build our team to improve our capabilities and prepare for the future.

Every person wants to belong. Every person want to know that their life, their work, their effort was meaningful. In many industries it would be difficult to meet either of these needs. In steel casting production, we are well suited to provide people with a place to belong doing meaningful work.

Unfortunately, we often have failed to manage our company culture to give employees a sense of belonging or a sense of the meaningfulness of our products and capabilities.

For the future, we need to figure out how to create, sustain and enhance the sense of belonging to a successful team dedicated to high performance. We also need to find ways to connect the efforts of all of our team members to the value and importance of our production.

We also need to find ways to extend this sense of meaning and belonging to our suppliers and customers. We need to select suppliers and serve customers who are good. Customers who do want to make meaningful contributions to our community and our lives. Suppliers who will collaborate with us to provide both superior products and meaningful relationships through the travails and successes. Our survival will depend on more than this but this issue of leadership in challenging and motivating the next generation workers is a key element we must accomplish in this difficult time.

STEEL FOUNDERS' SOCIETY OF AMERICA BUSINESS REPORT

SFSA Trend Cards (%-12 mos. Ago)	12 Mo Avg	3 Mo Avg	April	March	February
Carbon & Low Alloy					
Shipments	-23.6	-19.0	-21.5	-25.0	-10.5
Bookings	-26.6	-18.8	-15.0	-25.0	-16.5
Backlog (wks)	7.5	6.8	6.0	7.5	7.0
High Alloy					
Shipments	-17.0	-17.3	-17.0	-25.0	-10.0
Bookings	-22.0	-6.7	0.0	-20.0	0.0
Backlog (wks)	7.2	7.0	6.0	8.0	7.0
Department of Commerce - Census Data					
Iron & Steel Foundries (million \$)					
Shipments	1,584.6	1,517.3	1,511	1,506	1,535
New Orders	1,598.4	1,618.0	1,612	1,620	1,622
Inventories	2,021.1	2,114.3	2,092	2,143	2,108
Nondefense Capital Goods (billion \$)					
Shipments	76.8	71.3	71.6	71.2	71.1
New Orders	75.1	70.2	74.0	68.5	68.3
Inventories	174.9	172.4	172.4	172.6	172.3
Nondefense Capital Goods - less Aircraft (billion \$)					
Shipments	67.6	63.1	63.2	63.0	63.0
New Orders	67.2	62.9	62.7	63.1	62.9
Inventories	119.7	119.1	118.8	119.2	119.1
Inventory/Orders	1.8	1.9	1.89	1.89	1.89
Inventory/Shipments	1.6	1.9	1.88	1.89	1.89
Orders/Shipments	0.9	1.0	0.99	1.00	1.00
American Iron and Steel Institute					
Raw Steel Shipments (million net tons)	7.2	7.2	7.4	7.4	6.9

SFSA Fall Leadership Meeting

The Board of Directors of Steel Founders' Society of America invites you to attend the Fall Leadership Meeting September 10-13, 2016. The meeting will be held in Santa Fe, New Mexico at La Fonda on the Plaza. We look forward to you attending this educational and networking meeting while enjoying the fun and culture that Santa Fe has to offer. This year's business sessions will include the SFSA 2017 market forecast, industry roundtable, and informative presentations including:



- Mike McDowell, Astech Industries – Perspective on Global Casting Market
- Larry Kavanagh, Steel Market Development Institute - Current & Emerging Steel Markets
- Rick Farrell, Tangent Knowledge – New Sales Strategies to Avoid Commoditization
- Joe Pickard, ISRI – Scrap and Commodities Markets
- Skip Guimond & Martha Guimond, Joseph Guimond & Associates – OSHA & EPA Regulatory Update and Foundry Best Practices

The registration package for the meeting can be found in the following link
<https://www.sfsa.org/meetings/fall16>

Research Review

The annual SFSA Research Review will be held on July 18-20. The Review covers the latest steel casting research, and is your opportunity to interact with the researchers and provide industry steering. The event features both Carbon & Low Alloy and High Alloy topics; it is the R&D featured at the National T&O but with no cost for the meeting (travel, hotel, meals, etc. are the attendees' responsibility). For questions or to RSVP, please contact David Poweleit at poweleit@sfsa.org.

Industry R&D Roadmap

The foundry industry roadmap is now available on the SFSA website at https://www.sfsa.org/industry_roadmap.php. The plan includes the three SFSA Board of Directors' strategic goals: Product Development, Customer Education, and Workforce Development, and offers an opportunity to frame new programs and R&D projects to meet industry needs and enable a strong future for the casting industry. The roadmap helps ensure future SFSA R&D provides value and readily transitions to our foundries.

Specifications

Frank Peters presented on the development of a new specification for digital surface inspection at the ASTM A01.18 meeting. A copy of the Iowa State University T&O paper on the topic is available [here](#). The new specification for C12A has worked through the last of the negatives and is ready to move forward. SFSA will support an EPRI user group meeting on CSEF in June. The Telebrineller ILS is complete and will develop a test method. The Newage Pin Brinell is more commonly used by steel foundries and was proposed for a similar ILS and likewise the development into a test method. There was discussion about removing the AIN macro images in A781. If you use these images, please contact David Poweleit at poweleit@sfsa.org. The subcommittee is taking on the action to investigate changing "repair" welding to another term that is not so readily confused by new designers and purchasers to convey that welding is part of the production process for manufacturing most castings. ASTM A01.14 plans to run cast material under the second round of an ILS for A262 Practice E. SFSA has offered support to acquire cast material for a round robin to develop a hardness conversion table for duplex stainless steel under A370.

American Metalcasting Consortium (AMC) Technology Review

The 2016 AMC Technology Review was held in Chicago on June 16-17, 2016 to showcase the progress of AMC's Casting Solutions for Readiness (CSR) projects and how they support both the Defense Logistics Agency and the Metalcasting industry. SFSA plays an active role and sponsors several of the AMC projects including: Design and Manufacturing Resources, Welding of High Strength Steels, Modeling of Steel Casting Performance, and Digital Radiography Standards. A complete list of projects and slide presentations from the review are available online:

http://amc.ati.org/2016_Presentations.html

Integrated Casting Order Network (ICON) – Sourcing Business Opportunities for Foundries

One of the AMC projects that is of benefit to foundries, especially in light of poor business conditions, is the ICON portal created by the Non-Ferrous Founders' Society.

NFFS is developing a source optimization portal to eliminate procurement challenges for cast metal part acquisitions. The objective of the web portal is to establish a marketplace that facilitates linking DoD procurement manufacturing requirements to a qualified supply base that is both responsive and capable. The ICON portal provides casting suppliers a better method to identify defense related solicitations for components that they have the capability to manufacture.



The portal has matched more than \$59M in bid solicitations to foundries since 2015 and is targeted to exceed \$70M in 2016. For more information on ICON or to establish a free account, visit:

<https://portal.defensecastingresources.com>

Building Construction

SFSA exhibited at the North American Steel Construction Conference (NASCC). The show had another high year for turnout and provided an opportunity to network with design engineers to market the use of steel castings in building construction. SFSA has partnered with the American Institute of Steel Construction (AISC) to assist the steel construction community in leveraging cast components. Cast steel components have not been used in building construction because builders, engineers, and architects do not know the cast steel grades, design practices, inspection requirements, or welding procedures. SFSA supported research at the University of Iowa is now being leveraged in Germany to develop a casting design guide for buildings. This will enable customers who are not familiar with castings but have a desire to use them, the opportunity to design, specify and buy steel castings.