SFSA CASTEEL REPORTER

Steel Founders' Society of America

a monthly publication serving SFSA steel casting industry Members

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May — 2008

Casteel Commentary Highlights:

This month's Casteel Reporter gives a short report on our trip to Brazil. The foundries their appeared quite capable and competitive. Global suppliers will find possible opportunities in this growing economy.

CASTEXPO

SFSA has a booth at the AFS/NADCA CASTEXPO. Our booth is #1262. http://www.castexpo.com Please come and visit us when you are at the show. On May 17, Raymond Monroe will be giving a luncheon talk on China at the Copper division luncheon.

Military Casting Production Survey

Here is a summary of market size for military parts from the members that responded (16).

Clearly this is only representative of the military market but does give a small indication of the qualifications and distribution. Investment casting is more common in the Air Force and we did not get those producers. Our end use survey 2006 shows a production of 2000 tons. The participation in that survey is between 20 and 35% of the market likely so the "real" number is likely to be closer to 6000 tons or about 5% of the market.

Military Parts Cast

	Ton/year	MIL 11356	MIL 2175
Army	428	2	2
Navy	1080		3
Air Force	14		

Future Leaders

Our first future leaders' meeting has been arranged. After the kick-off "meeting" at the T&O we made the following assessment. Based upon the varying levels and backgrounds, we setup the first meeting as an opportunity to meet with a steel foundry "graybeard" (Tom Armstrong) and do a plant tour. We would also do a roundtable discussion on an innovation to share from your foundry (bring an idea... can be on research, part design, marketing, manufacturing, etc.). The meeting is set for Tuesday, June 10th and Wednesday, June 11th at AmeriCast Technologies in Atchison, KS. Additional details will be sent, but here is a rough agenda:

Day 1

1:00 - 3:00	Introductions, SFSA groups, innovation roundtable, plan forward
3:00 - 5:00	Open discussion with Tom Armstrong
6:30	Dinner

Day 2

8:00 - 9:30	Atchison Casting tour
9:30 - 10:00	Travel to machine shop
10:00 - 11:30	Machine shop tour

Specification Note

Grade substitution is restricted in ASTM specifications by A703 or A781 5.4.1 and 5.4.2.These are the general technical delivery conditions and are requirements for all ASTM Cast Steel materials. While the specification allows the supply of a lower carbon stainless steel for a higher carbon grade with no minimum, in general the language does not permit the addition of unspecified alloys that make one heat qualify to two different grades. It is permitted to hit a chemistry that meets the requirements for both grades in a single heat. What is forbidden is adding a element that is required in one specification and unspecified and not reported in the other. For example, you cannot supply A743 Grade CF8C and CF8 from the same heat of metal. The CF8 does not require reporting Cb but the CF8C has a minimum requirement. You cannot add Cb to the heat and certify it as CF8 and not report the Cb.

Innovation

Radiography is unable to resolve microshrinkage or porosity that is small. Leaking castings are a concern in many applications but standard NDE does not catch leakers. Beyond that, it is not clear without excessive yield penalties that leakers can be avoided. SFSA has sponsored some work to see if solidification simulation can identify areas prone to leak. It appears that for most alloy steels and stainless that ensuring that the through wall Niyama value exceeds 1 will prevent leakers.

Persons Available

A1222 has a great track record of performance improvements and implementing positive change at Foundries, plus Machine and Fabrication Shops. Experience in "Value Added" Steel Castings. Holds an MBA, MS in Metallurgy, BS in Mechanical Engineering, and a PE license.

Market News

Bookings for carbon and alloy steel castings are still positive this month. Shipments are also growing. Business has clearly slowed for many operations but most appear to be holding their own. Many plants are still struggling to keep up. Smaller steel castings have been slowing most rapidly. Steel shipments and iron and steel casting activity as reported by AISI and Census show a stabile market even with a slowdown in the overall economy. The same is true for capital goods. It seems clear that activity and pricing for steel products has seen an increase as seen in the SteelGuru report located on the Casteel Reporter web page.

Casteel Commentary

Brazil is a major producer of steel castings, fifth in the world after China, the US, Russia and India. They produce about 325,000 metric tons a year and have a population of 190 million for a per capita production of 1.7 kg per person. This compares with 1,366,000 tons in the US for 300 million or 4.5 kg per person. China makes 3,811,000 tons with a population of 1.3 billion or 2.9 kg per person. This suggests that Brazil's steel casting industry is relatively small compared to its population.

Much of the Brazilian economic activity is capital equipment intensive including mining, agriculture and transportation. The relative small size of the steel casting industry along with a robust demand for their own industry makes much of their capability directed at their own needs.

The foundries we saw in Brazil had production and technical practices that would be typical of those in North America. Many of the facilities had origins or commercial ties with European firms. Their equipment and practices seemed to be similar to those we use. Wages appeared to be roughly one third of the rates common in North America. The fall of the dollar against the real has made it difficult for Brazilian plants to successfully compete in the North American market. Business practices, values, and expectations were also compatible with North American practices.

Brazilian Real v US Dollar

Unlike China, little new construction was evident in Brazil. There was not the forest of construction cranes that were characteristic of China. None of the plants we visited were constructing a new plant or new site. One plant had plans to move and expand but the uncertainty in the market had put their plans into an indefinite hold.

One final striking observation was their general concern over sharing information and opening their plants. With a few exceptions, the plant management was concerned that we wanted to visit and were apprehensive over our wanting a tour of their facility. There seemed to be no comparable organization to SFSA where the plants could develop market practices or solve common problems. Their foundry organization, ABIFA, was mainly concerned with regulatory and commercial questions and represented all the metals and processes. Their biggest issue for our discussion was the disposal of spent foundry sand, which suffered from discriminatory regulation requiring special handling.

Brazilian foundries seemed to be possible partners' in future global arrangements. Their biggest lack was the absence of a technical and industry community like SFSA to become efficient state of the market producers.

Raymond

STEEL FOUNDERS' SOCIETY OF AMERICA

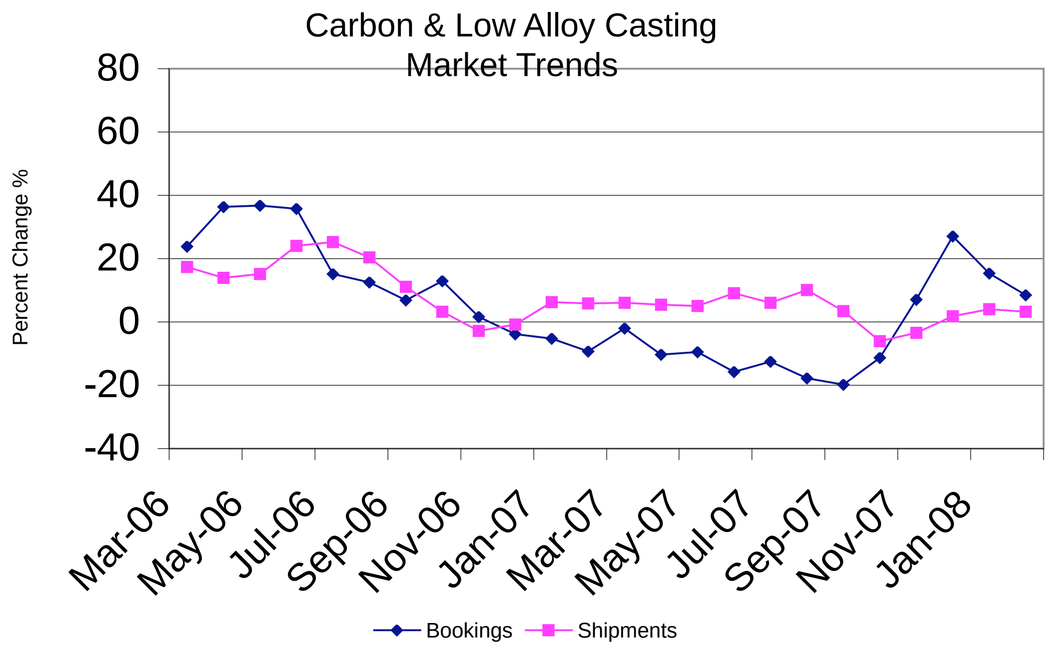
MEETINGS CALENDAR

2008

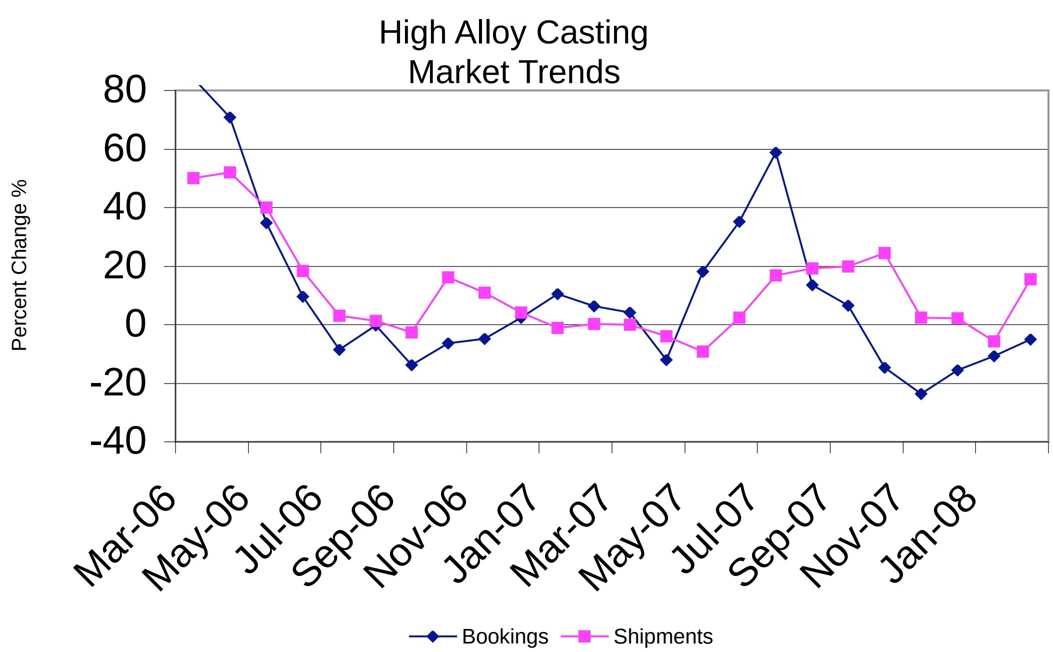
June		
10/11	Future Leaders Group	Atchison, KS
July		
16/17	C&LA Research Review	Rosemont, IL
September		
9-6	SFSA Annual Meeting	Charleston, SC
December		
10-13	National T&O Conference	Chicago, IL

STEEL FOUNDERS' SOCIETY OF AMERICA
BUSINESS REPORT

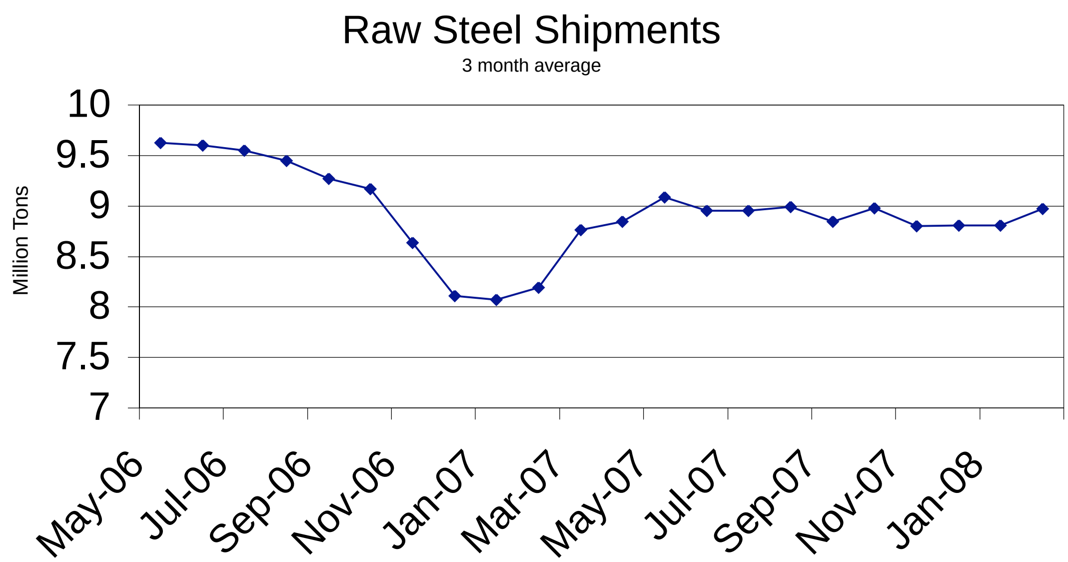
SFSA Trend Cards (%-12 mos. Ago)	12 Mo Avg	3 Mo Avg	Feb	Jan
Carbon & Low Alloy				
Shipments	3.7	3.2	10.4	-9.9
Bookings	-2.9	8.5	-1.4	-18.3
Backlog (wks)	10.5	9.7	10.0	9.6
High Alloy				
Shipments	7.0	15.6	5.8	28.8
Bookings	0.7	-5.1	-33.2	-13.8
Backlog (wks)	10.7	9.3	8.0	9.5
Department of Commerce Census Data				
Iron & Steel Foundries (million $)				
Shipments	1,603.1	1,625	1,631	1,626
New Orders	1,602.4	1,614	1,666	1,589
Inventories	2,524.0	2,563	2,546	2,555
Nondefense Capital Goods (billion $)				
Shipments	67.0	68.1	66.5	69.3
New Orders	76.3	76.8	74.3	74.9
Inventories	123.6	128.4	129.7	128.7
Nondefense Capital Goods less Aircraft (billion $)				
Shipments	61.4	62.4	61.5	62.7
New Orders	62.8	63.7	62.6	64.1
Inventories	99.2	101.2	101.8	101.2
Inventory/Orders		1.59	1.63	1.58
Inventory/Shipments		1.62	1.66	1.62
Orders/Shipments		1.02	1.02	1.02
American Iron and Steel Institute				
Raw Steel Shipments (million net tons)	9.0	9.0	9.2	9.2



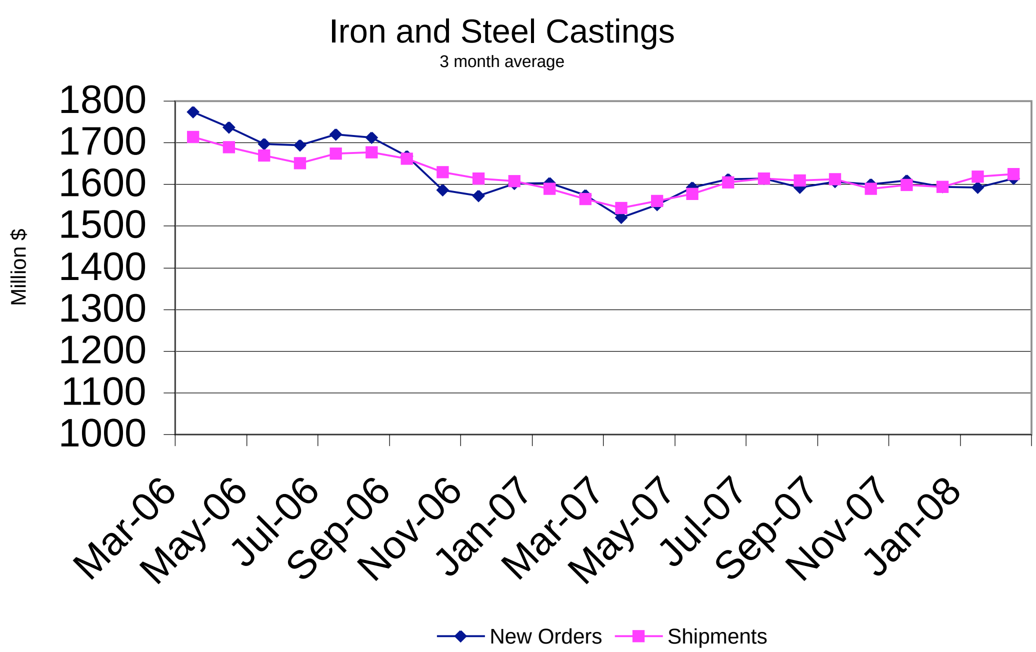
SFSA Postcards



SFSA Postcards



AISI Data



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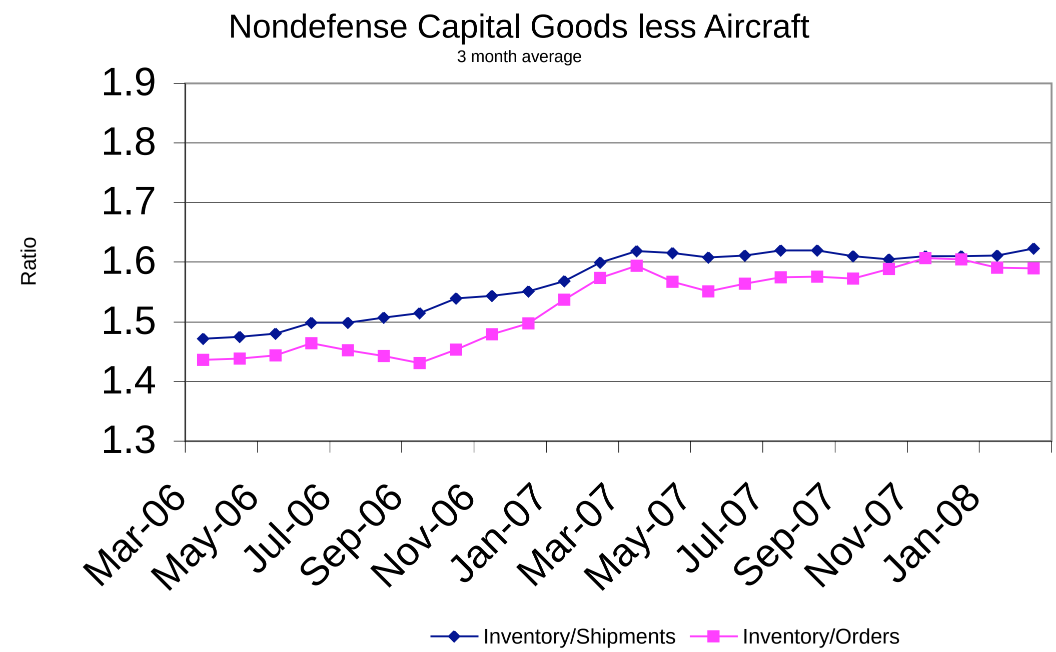
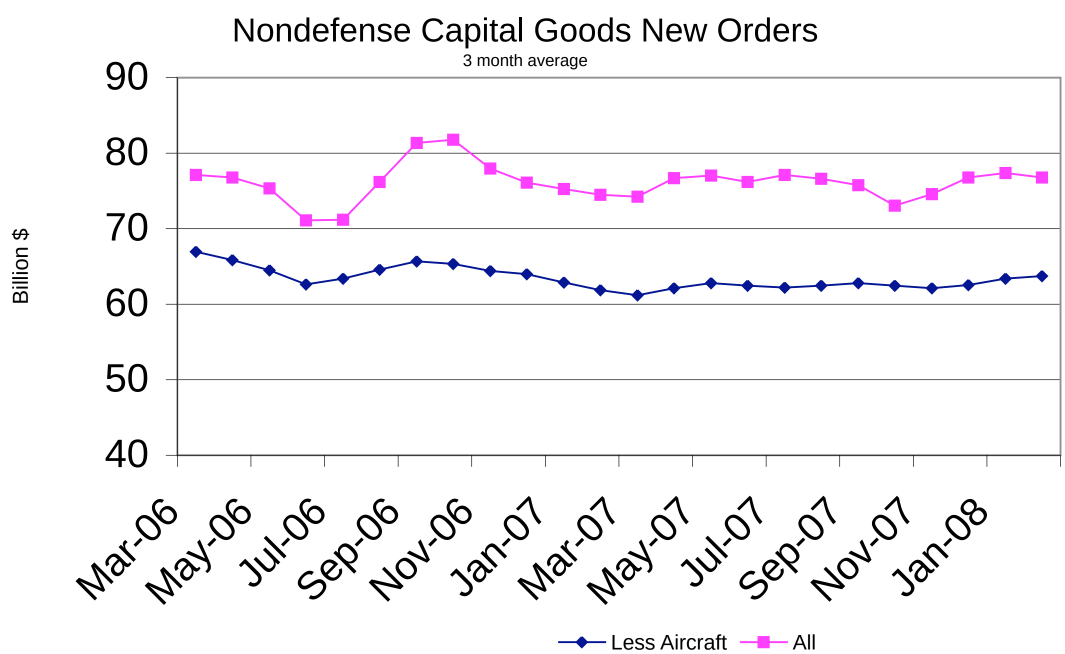


Department of Commerce



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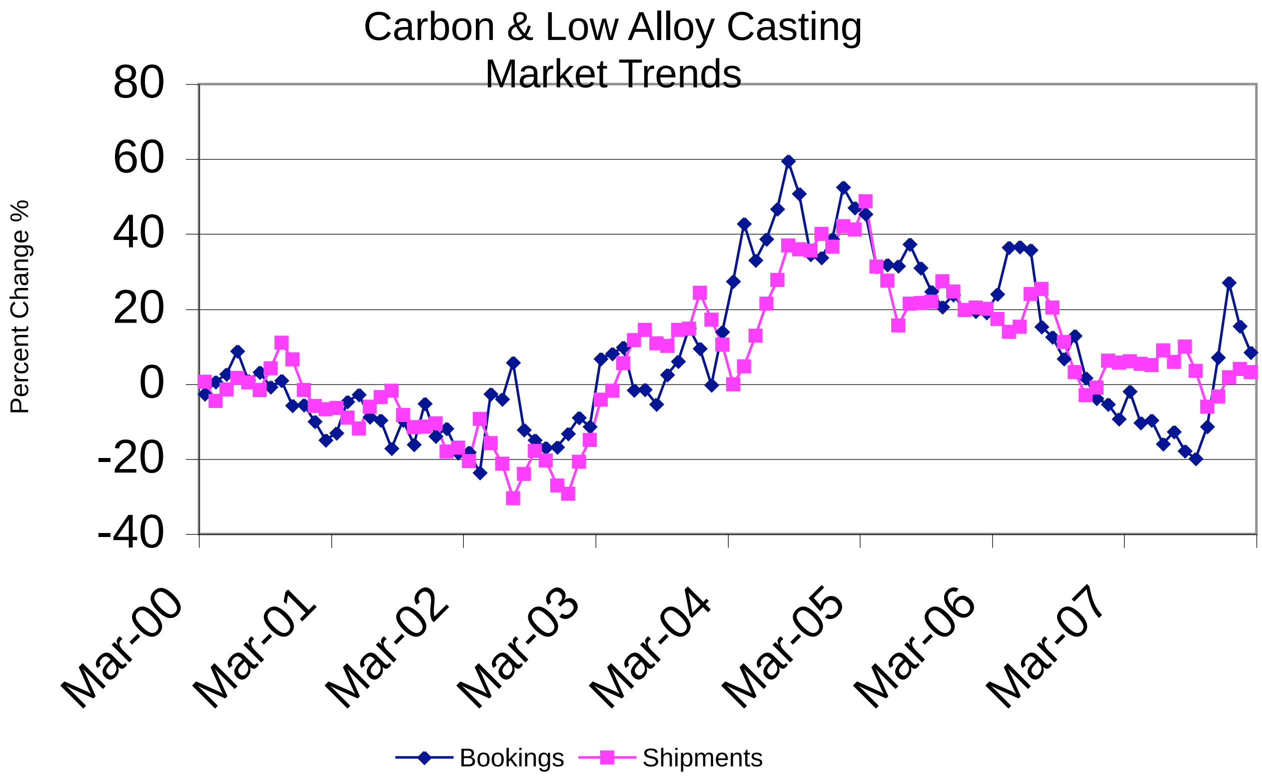

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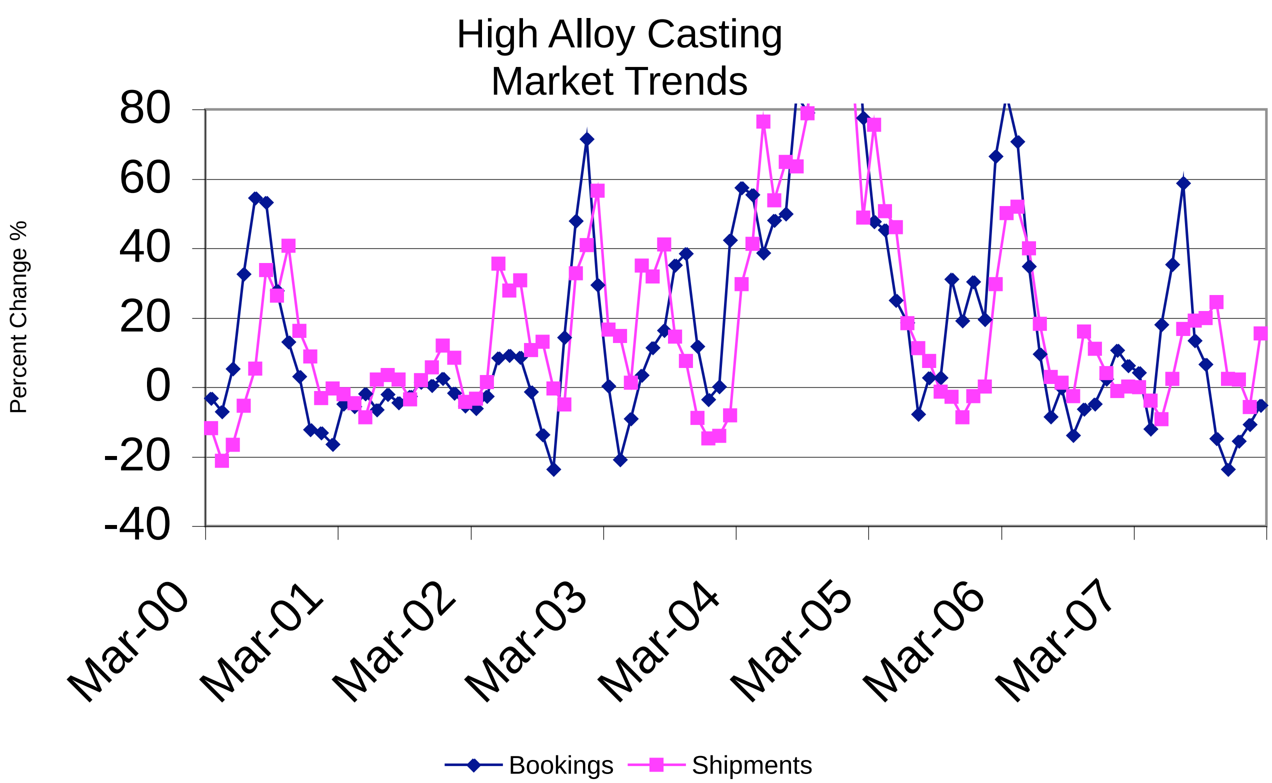

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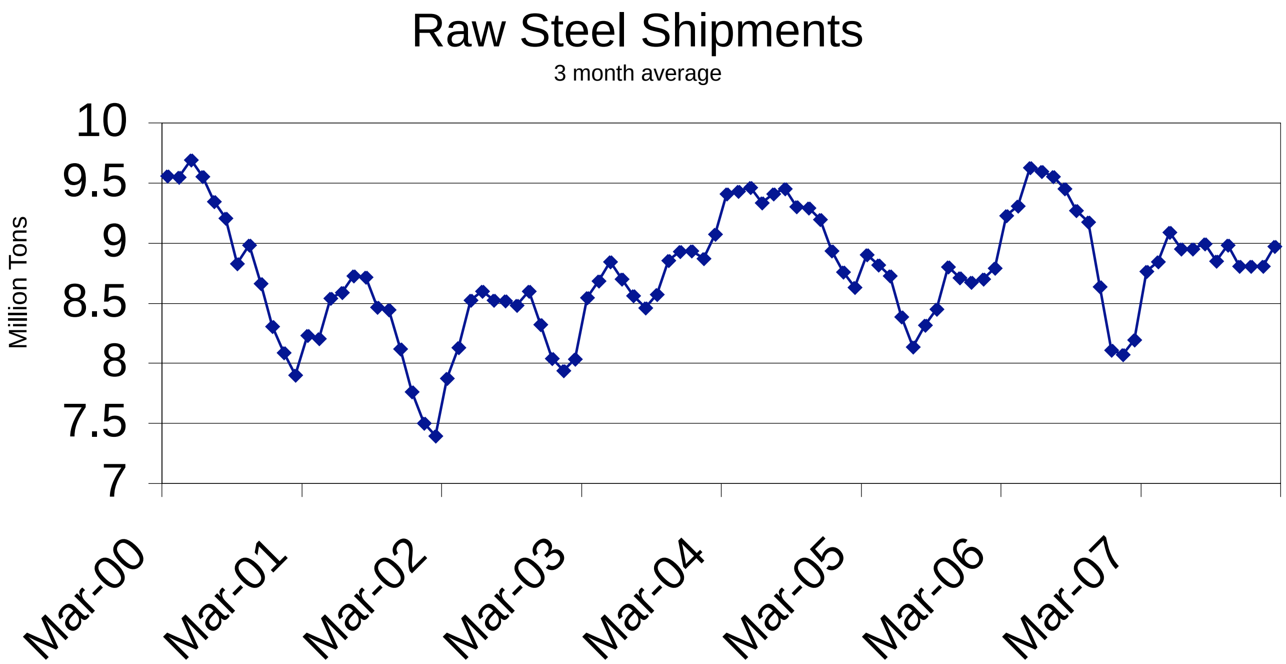
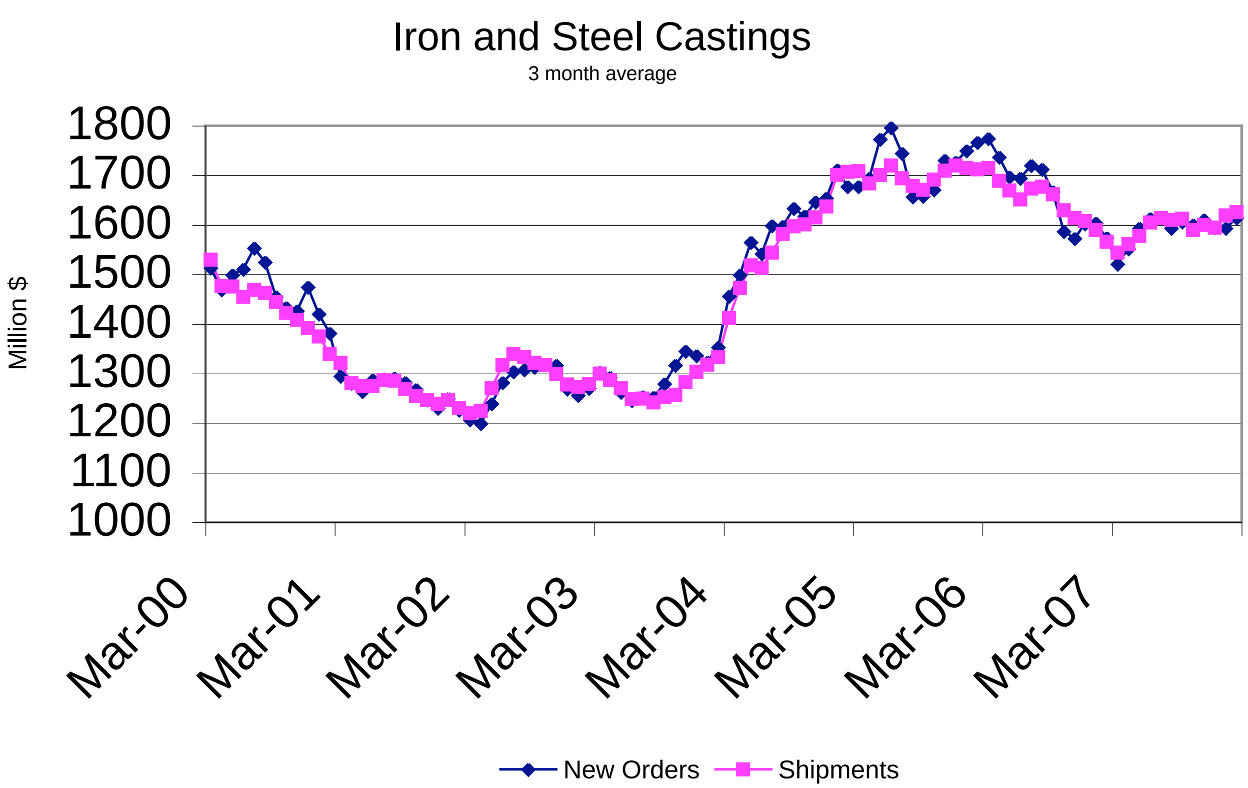


AISI Data



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