

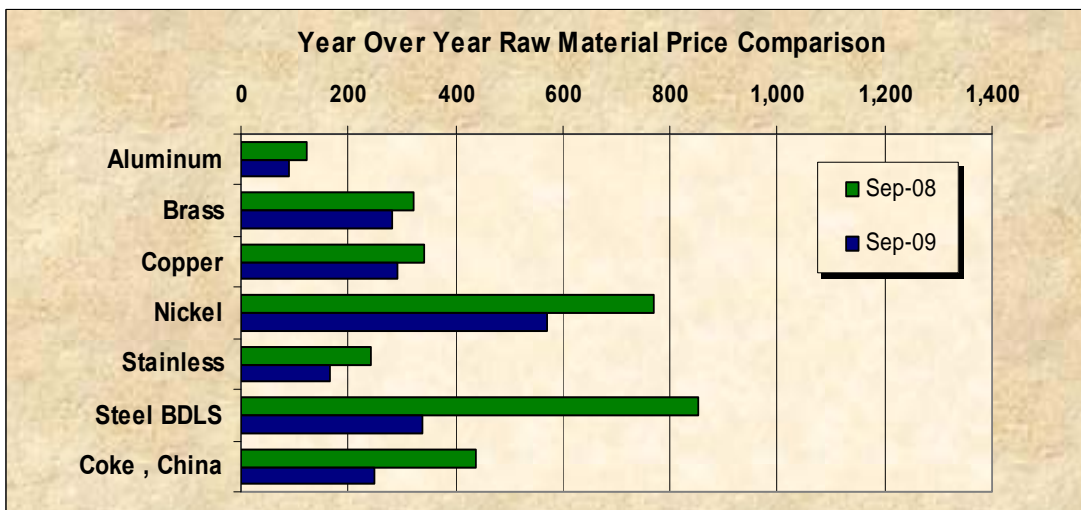


Material Impacts On The Precision Machining Industry

October 2009

Of Course Prices Have Risen, Manufacturing Activity Is Up And Supply Chain Has Destocked

Executive Summary



Quick Summary: The prices of the raw materials that we track have continued to rise with double digit percentage gains over January with one exception: China Coke. Year over year, all prices are still down significantly.

Aluminum: Up 18.65% from January

Copper, Up 86.67% from January.

Nickel: Up 27% from May, up 4.44 % since January.

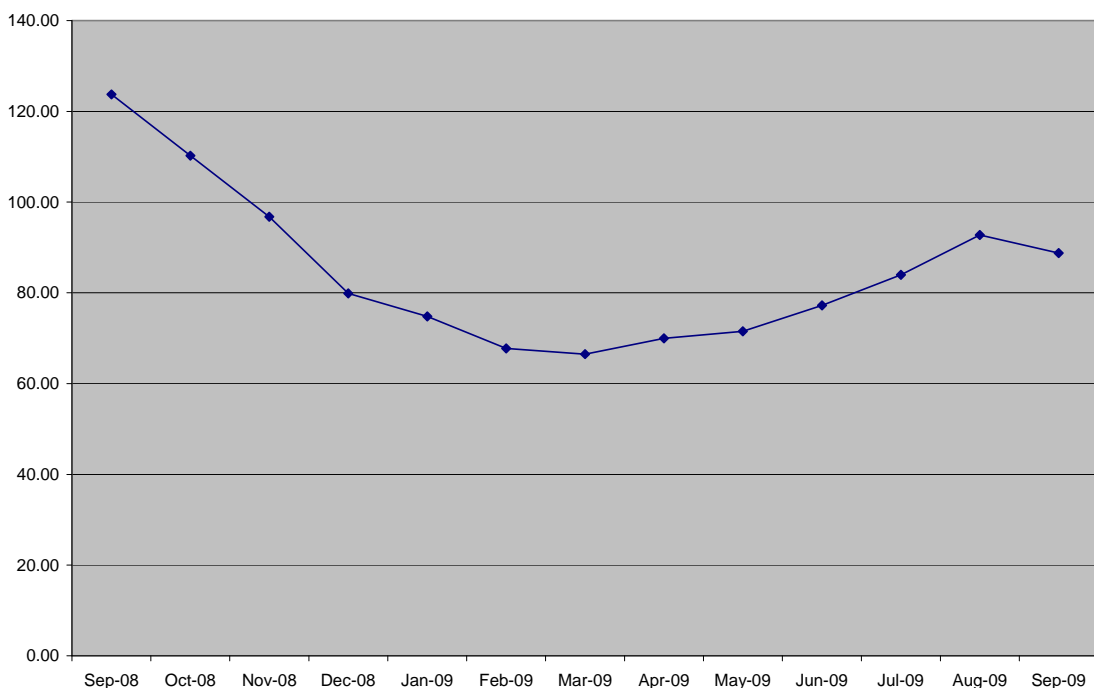
Steel, Busheling: Up 26.67% from January.

China Coke, Down 2.73% from January.

We have seen price increase announcements in addition to surcharge increases since our last report. Why? The Institute of Supply Management reports that Manufacturing resumed expansion in August following 18 consecutive months of contraction. Right on its heels due to low inventories- price increases for raw materials!

“The August index of 52.9 percent is the highest since June 2007. The 4 percentage point increase was driven by significant strength in the New Orders Index, which is up 9.6 points to 64.9 percent, the highest since December 2004. The growth appears sustainable in the short term, as inventories have been reduced for 40 consecutive months and supply chains will have to re-stock to meet this new demand.” <http://www.ism.ws/about/MediaRoom/newsreleasedetail.cfm?ItemNumber=19641>

Aluminum *(cents per pound Comex Spot close)*



Aluminum in September 2009 is selling for just 70% of the average 2008 price of \$126.64 .

Aluminum	Aug-09	Sep-09
Minimum	85.25	83.00
Maximum	92.75	88.75
\$ Δ	7.50	5.75
% Δ	8.8%	6.9%

U.S. metals service centers shipped 85,800 tons of aluminum during August, a decline of 38.8% from the same month last year. Shipments for the year to date of 700,100 tons are off 42.2% from this time last year. Inventories at the end of August totaled 261,200 tons, a little below July aluminum stockpiles and 42.4% lower than at this time last year. At current shipping rates, that represents a 3.0-month supply of the light metal.

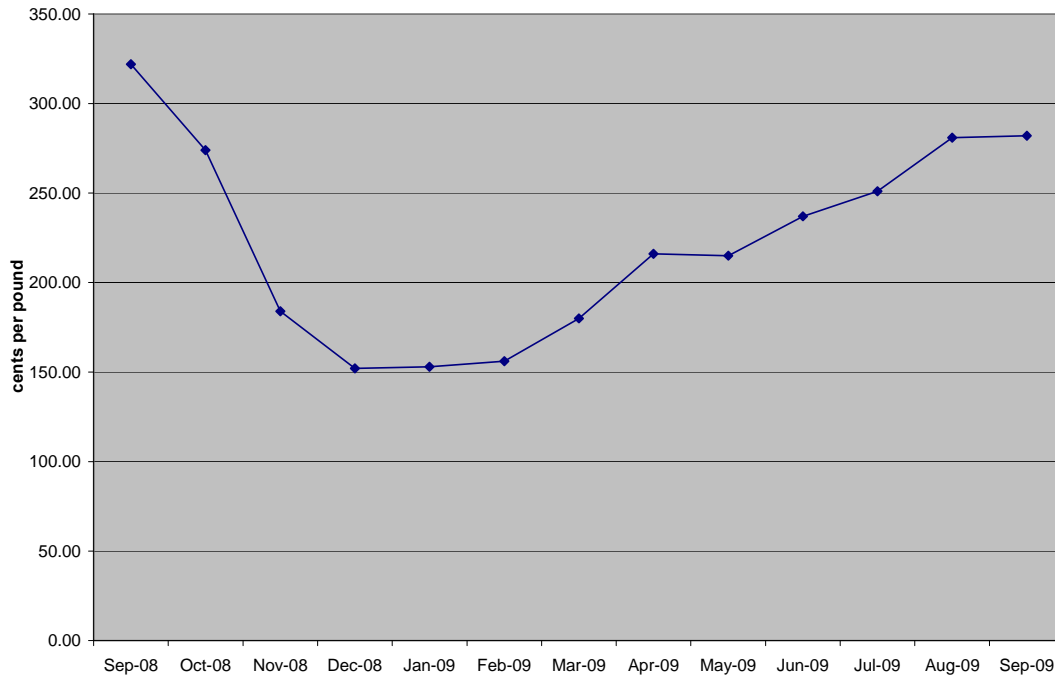
Canadian metals centers shipped 10,200 tons of aluminum during August, an improvement on July's shipments but down 23.7% from a year ago. For the first eight months of the year, Canadian aluminum shipments have totaled 85,000 tons, a decline of 25.5%. Month-end aluminum inventories in Canada of 29,400 tons are down further from July and off 20.3% from a year ago. At current shipping rates, that represents a 2.9-month supply.

Source: <http://www.ssci.org/news/details.aspx?ArticleID=148>

Average price in 2008: \$1.27 per pound

Brass (*cents per pound copper brass mill number 1*)

Brass (copper brass mill #1 scrap)

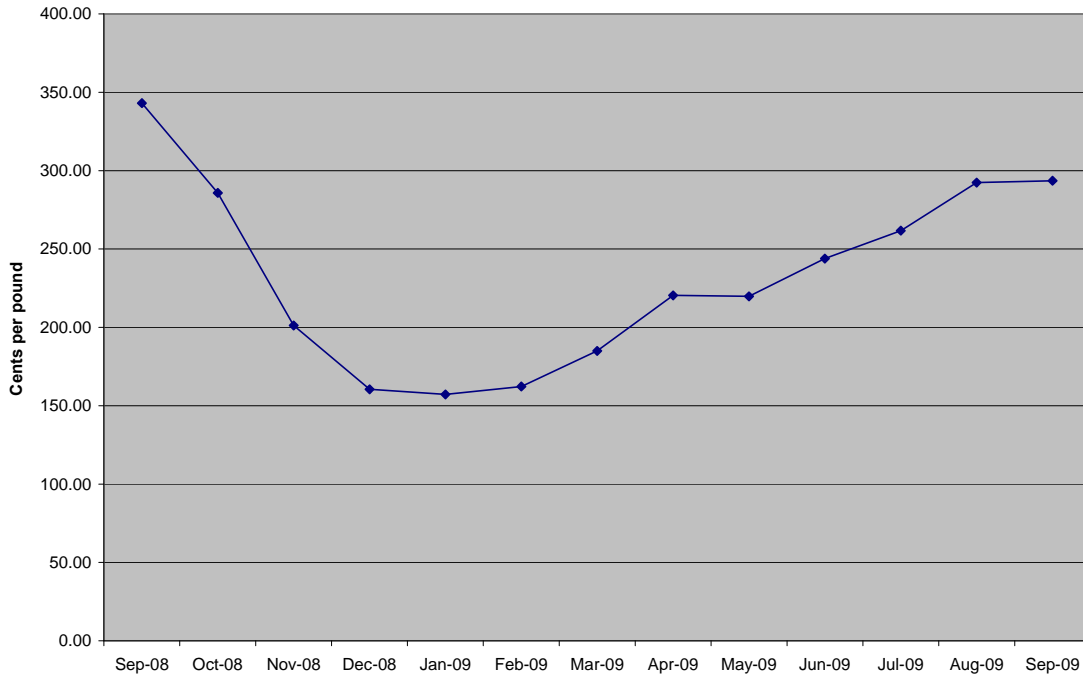


Brass and Copper are up ~84-86 % since January 2009.

Brass	Aug-09	Sep-09
Minimum	261.00	260.00
Maximum	281.00	282.00
\$ Δ	20.00	22.00
% Δ	7.7%	8.5%

Average Price in 2008 (*cents per pound*): **322.50**

Copper cents (per pound Comex high grade cathode, spot close price)



Price decrease announced effective September 29, 2009. Surcharge remains Zero. The Freight Fuel surcharge up 3% to 27% over the standard freight rate.

The metal selling price is now \$3.33 per pound. Imports of copper by China “retreated” about 20% according to press reports citing both softening demand and port congestion. Stocks at LME finished up 25% in September, and in Shanghai by 7%, increasing supplies helping hold prices lower. According to Forbes: “Copper has surrendered nearly 11 percent of its value in September, as worries about incessant supply builds in global warehouses and moderating Chinese import levels have begun to dominate sentiment once again.”

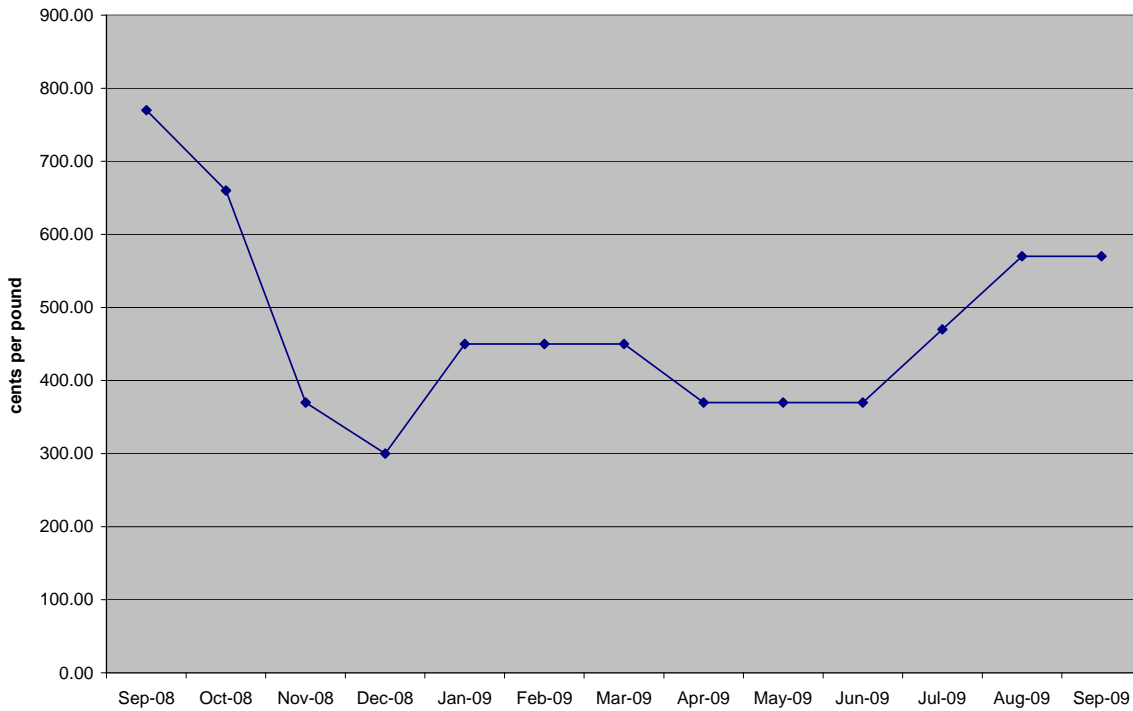
<http://tinyurl.com/ydz7mns>

Copper	Aug-09	Sep-09
Minimum	273.15	269.95
Maximum	292.30	293.45
\$ Δ	19.15	23.5
% Δ	7.0%	8.7%

Average price in 2008 (cents per pound): 338.99 per pound.

Nickel *(cents per pound, New Clips and Solids Chicago)*

Nickel scrap (new clips and solids)



Nickel has been level since March- now up 27% compared to January. Nickel is a substantial ingredient by weight in stainless steel barstock. At \$5.70 per pound, Nickel is currently still priced well below last years' average.

Nickel	Aug-09	Sep-09
Minimum	560.00	560.00
Maximum	570.00	570.00
\$ Δ	10	10
% Δ	1.8%	1.8%

Average price in 2008: \$7.83per pound.

(Nickel is a key component of many steel alloy systems, stainless steels, superalloys, and many other nickel base materials.)

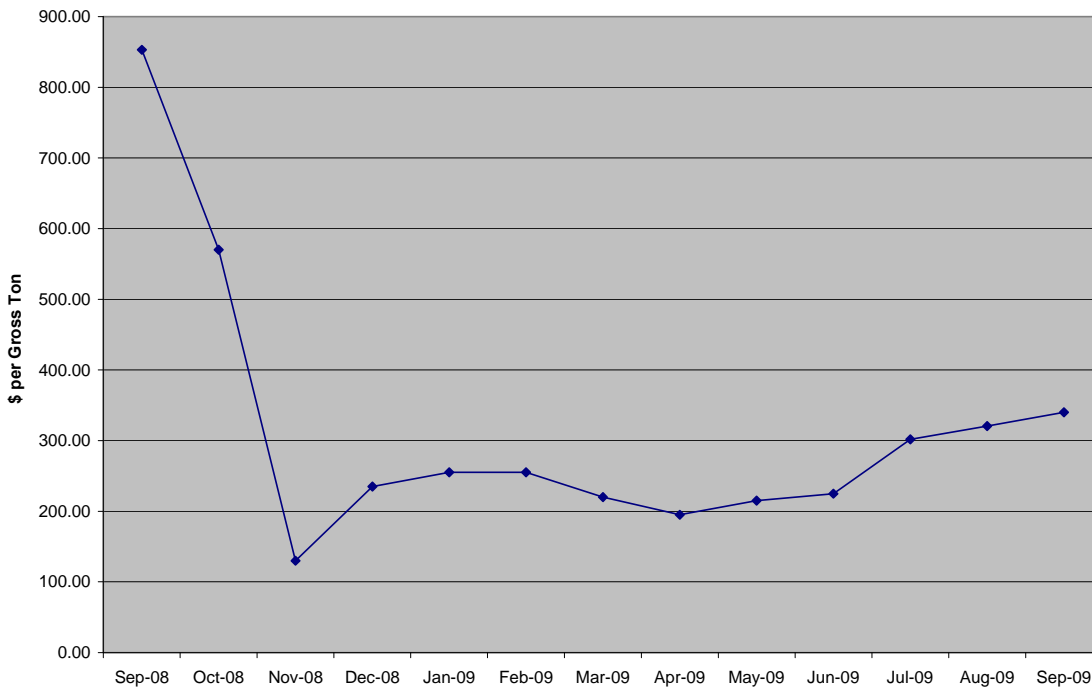
Stainless

Stainless Surcharges: Smolz + Bickenbach USA Stainless 303 per pound **Raw Materials Surcharge**- August \$0.55; September \$0.63; October \$0.81 last posted on website. These are calculated on a two month lag.

Falling demand by key use sectors for stainless steel in US and Europe and 130,000 tonne surplus of nickel production in 2008 are the primary determinants of stainless pricing at the current time. Miners strike this summer in Canada may be the issue that is perceived as lowering supply at this time.

Steel (dollars per gross ton, Number 1 Busheling composite, Chicago, Cleveland, and Pittsburgh)

Steel Scrap (#1 Busheling)



Surcharges: October 2009 Surcharges for Cold Finished Bars (per CWT) Scrap:\$8.75; Manganese: \$.23 (Leaded & Bismuth Grades); Alloy: 41XX= \$3.75,43XX=\$15.80, 86XX=\$6.93.

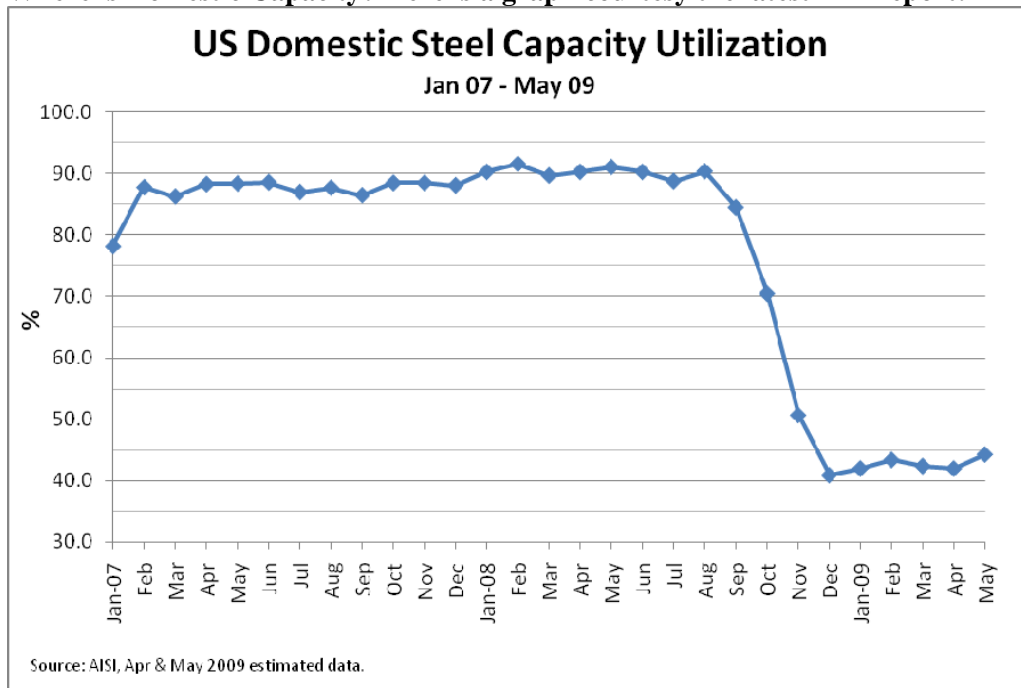
Steel scrap commodity that we track has slowed its volatility- up a little over 12% since last report.

Steel Busheling	Aug-09	Sep-09
Minimum	301.67	318.33
Maximum	320.67	340.00
\$ Δ	19	21.67
% Δ	6.3%	6.8%

Leaded cold drawn SBQ products rose \$2.50 per cwt or \$50 per ton October 1. August steel shipments from metals service centers in the United States totaled nearly 2.55 million tons, a decline of 34.7% from August 2008 but a slight improvement over July volume of 2.50 million tons. For the first eight months of the year, U.S. metal center steel shipments totaled 19.8 million tons, or 42.3% below the same period last year. Inventories at the end of August totaled 5.62 million tons, 49% below a year ago and a record low level for this data series. At current shipping rates, U.S. steel inventories were equal to a 2.2-month supply.

In Canada, metals service center shipped 415,500 tons of steel, about 18.8% fewer tons than in the same month last year, but a small amount more than shipments of 398,500 tons recorded in July. Shipments for the first eight months of the year, of about 3.3 million tons, are down about 32.1% from the same period last year. At the end of August, Canadian metals centers held steel inventories of 955,600 tons, 42.6% fewer than a year ago and down, again, from July. At current shipping rates, Canadian inventories represent a 2.3-month supply of steel. Source: <http://www.ssci.org/news/details.aspx?ArticleID=148>

Where is Domestic Capacity? Here is a graph courtesy the latest ITA report:



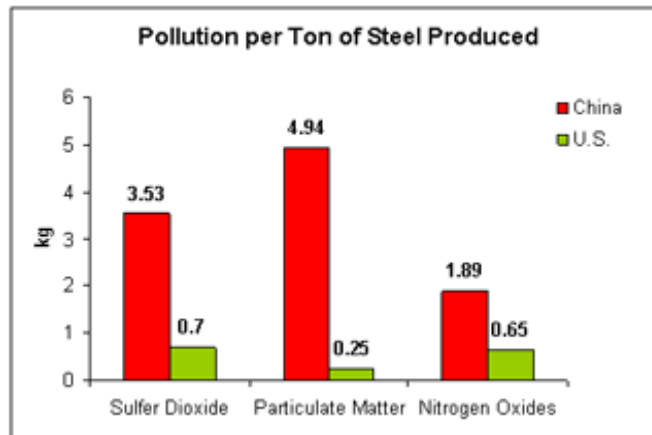
Latest Data from AISI:

In the week ending October 3, 2009, domestic raw steel production was 1,415,000 net tons while the capability utilization rate was 59.3 percent. Production was 1,850,000 tons in the week ending October 3, 2008, while the capability utilization then was 77.5 percent. The current week production represents a 23.6 percent decrease from the same period in the previous year. Production for the week ending October 3, 2009 is up 1.7 percent from the previous week ending September 26, 2009 when production was 1,392,000 tons and the rate of capability utilization was 58.3 percent.

Adjusted year-to-date production through October 3, 2009 was 44,751,000 tons, at a capability utilization rate of 47.6 percent. That is a 46.8 percent decrease from the 84,097,000 tons during the same period last year, when the capability utilization rate was 88.0 percent. http://www.steel.org/AM/Template.cfm?Section=Raw_Steel_Production1&TEMPLATE=/CM/HTMLDisplay.cfm&CONTENTID=29318

Commentary: Please remain in your seat with your seat belt securely fastened. In July, we said that “Inventories continue to decrease, foreign nations (Japan and Taiwan) are actively seeking to accumulate scrap, primary mills see no compelling reason to restart facilities,” Today, there seems to be little interest in scrap by foreigners, and despite the recent price increase, we are expecting lower surcharges for scrap in the near term. We have seen price of busheling increase 5 months in a row, and see no compelling reason for it to remain high in the current environment, with many shops still scheduling less than 40 hour first shifts and many employees still on layoff. We have not learned of any BOF melt bar capacity currently running in North America. Low mill utilization rates will mean tight supply and price squeeze.

Average price in 2008: \$575.50 per gross ton

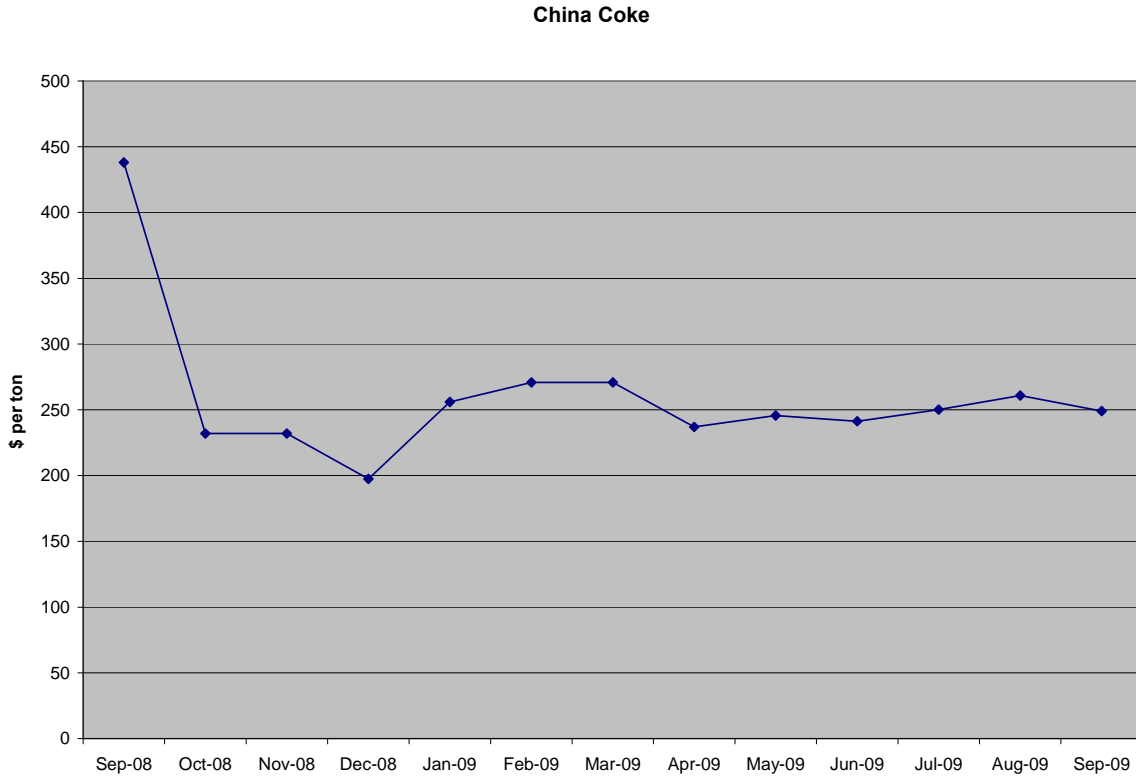


Source: National Bureau of Statistics, “China Environmental Statistics Yearbook,” 2006 (China); 2002 National Emissions Inventory Data and Documentation,” September 2007 (U.S.)

"The fact that China is now responsible for at least 50 percent of total global steelmaking CO₂ emissions generated and levels of pollution nearly 20 times higher per ton of steel in overall emissions of particulate matter than in the U.S, makes it obvious that any CO₂ regulatory scheme in the U.S. involving the American steel industry that does not provide for similar measures to be taken by other major steel-producing nations such as China on a contemporary time line, will distort or adversely impact the competitiveness of U.S. steelmakers in comparison to global steelmakers."- Thomas J. Gibson, president and CEO, AISI

Read More: <http://www.americanmanufacturing.org/wordpress/wp-content/uploads/2009/03/chinaenvironmental-report-march-2009.pdf>

China Coke (Chinese) (\$ per metric tonne)



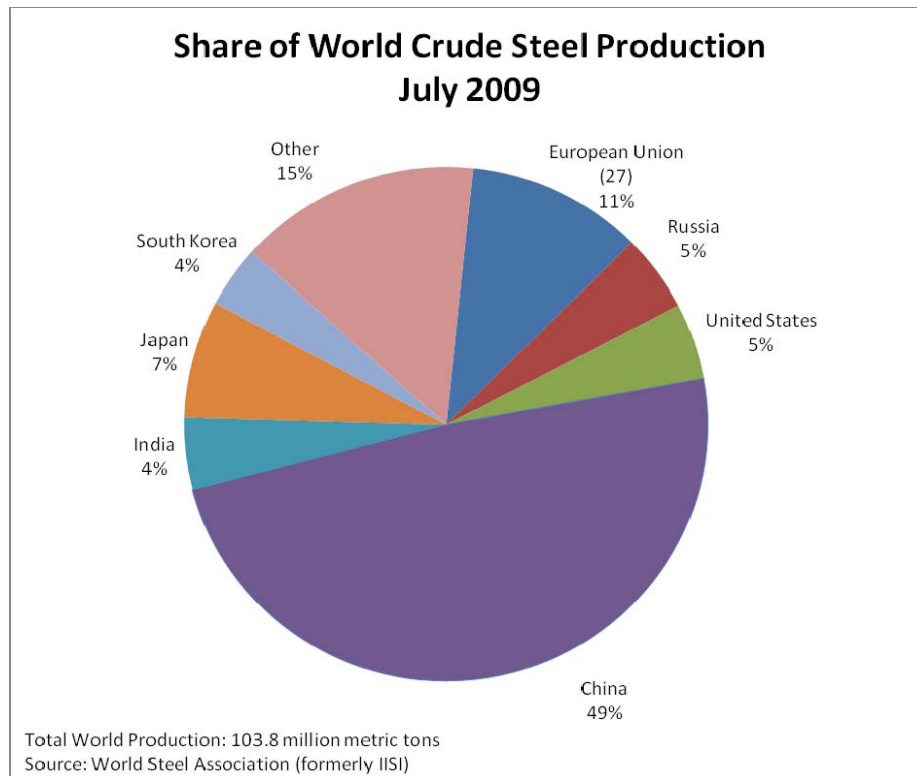
China Coke	Aug-09	Sep-09
Minimum	260.73	249.01
Maximum		
\$ Δ	0	0
% Δ	0%	0%

China coke is down ~\$133 or 35% from last year's average.

Average price in 2008: \$382.34 per tonne.

(Coke is used in blast furnaces to make hot metal iron for use in the basic oxygen steelmaking process. China accounts for half of the world's supply of coke, one third of which went to the European Union.)

China's imports of steelmaking raw materials declined in August, as ferrous scrap, iron ore, and coking coal shipments decreases from July levels. *Why this matters:*



China accounted for nearly 50% of monthly total world production in July 2009. China's share is larger than the combined production of the US, the EU 27, Russia, and Japan, which historically were the largest producers of steel. In 2001, China's annual share of world production stood at 17%, while the EU-15 accounted for the largest share at 18%. In eight years, *China's share of world production has almost tripled while other producers have seen their shares decrease.*

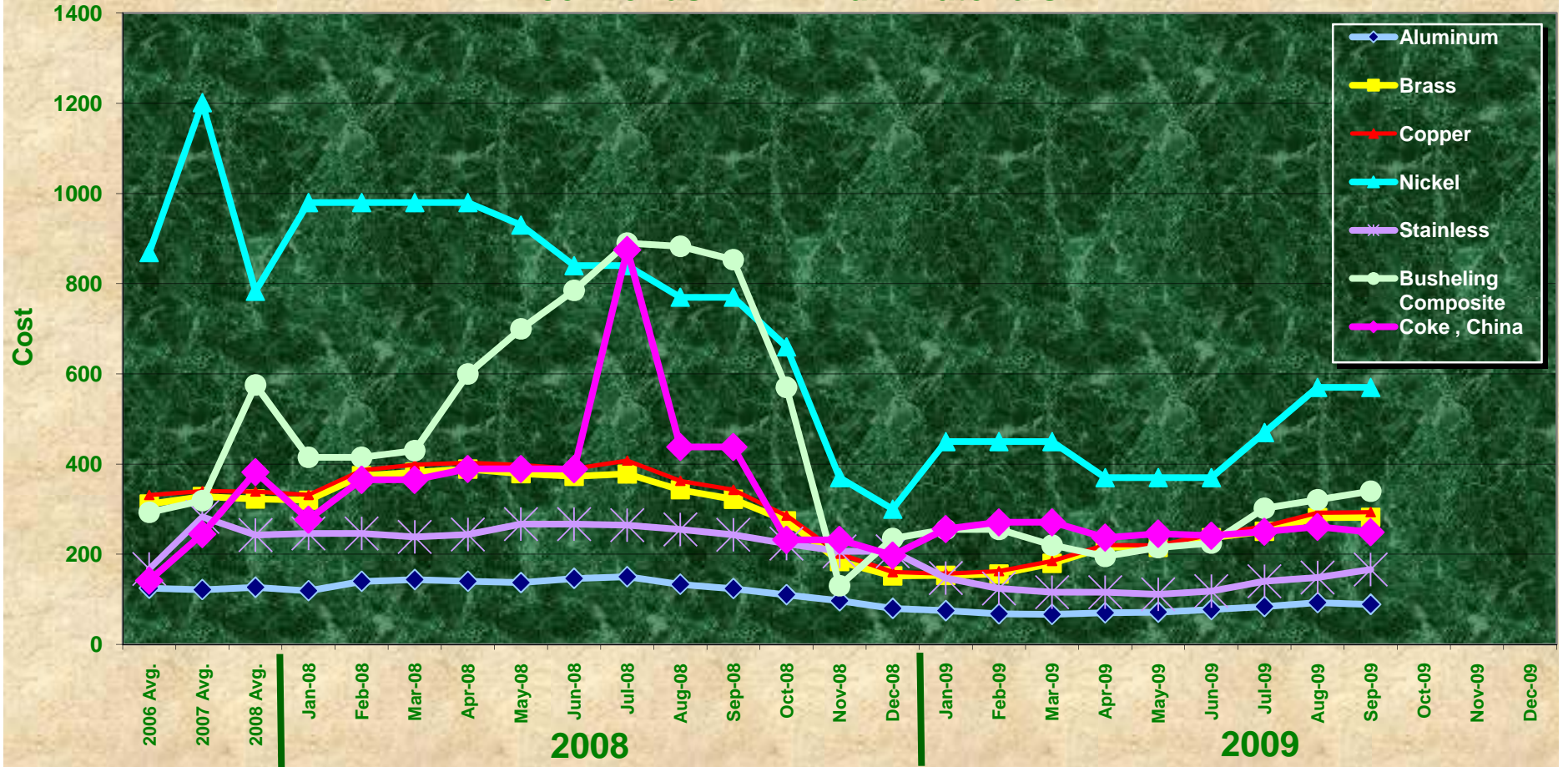
Chinese steel exports dropped steeply since the August 2008 peak, and the surplus of steel exports to imports was virtually eliminated in February 2009. From June 2009 to July 2009, Chinese exports increased 26.8% from 1.3 million metric tons to 1.66 million metric tons. Since the August 2008 peak, exports have decreased 79.4%. July 2009 steel mill exports are 77% lower than July 2008 exports and 60% below July 2006 figures. Chinese imports increased 15.5% between June 2009 and July 2009 to 2.3 million metric tons, slightly lower than the import peak of 2.67 million metric tons in April 2005. Source: ITA at <http://tinyurl.com/yamnu6k>

Knowing where to find material is a key competitive advantage in today's roller coaster market. PMPA members can take advantage of PMPA staff expertise, suppliers, and fellow members knowledge via member only Listserves to assure that material can be found when needed.

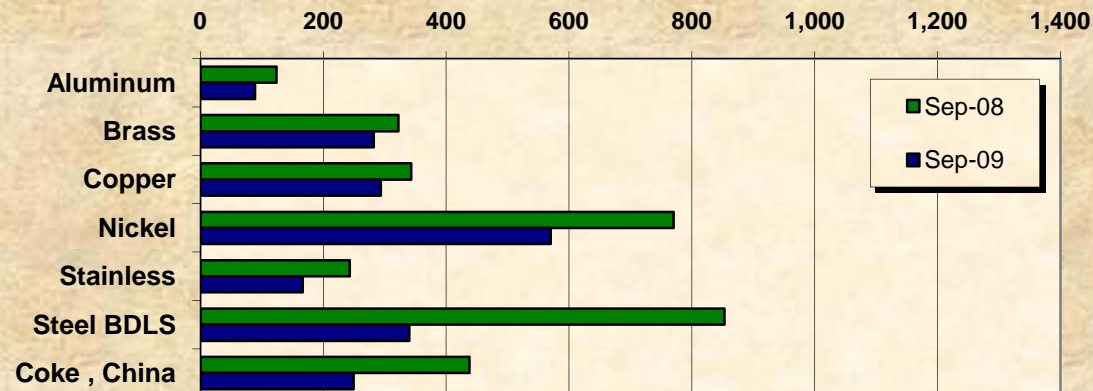
-Miles Free

Director, Industry Research and Technology
Precision Machined Products Association

Price Trends PMPA Raw Materials



Year Over Year Raw Material Price Comparison



PMPA Raw Materials Index

	Aluminum	Brass	Copper	Nickel	Stainless	Busheling Composite	Coke , China
2006 Avg.	124.62	311.58	331.19	869.17	167.50	293.25	141.75
2007 Avg.	121.49	328.17	339.86	1201.67	282.65	319.17	244.75
2008 Avg.	126.64	322.50	338.99	783.33	242.43	575.50	382.34
Jan-08	119.00	320.00	331.70	980.00	246.06	415.00	277.00
Feb-08	139.75	374.00	386.35	980.00	246.06	415.00	365.30
Mar-08	143.75	382.00	398.95	980.00	238.62	430.00	365.30
Apr-08	140.00	389.00	402.80	980.00	244.09	600.00	389.40
May-08	137.00	379.00	397.85	930.00	267.10	700.00	389.40
Jun-08	146.30	373.00	389.55	840.00	267.10	785.00	389.00
Jul-08	150.00	378.00	407.75	840.00	264.47	890.00	875.00
Aug-08	133.25	343.00	362.85	770.00	255.35	883.00	438.07
Sep-08	123.75	322.00	342.95	770.00	243.21	853.00	438.07
Oct-08	110.25	274.00	285.70	660.00	223.94	570.00	232.00
Nov-08	96.75	184.00	201.10	370.00	206.58	130.00	232.00
Dec-08	79.85	152.00	160.35	300.00	206.58	235.00	197.50
Jan-09	74.80	153.00	157.20	450.00	147.00	255.00	256.00
Feb-09	67.75	156.00	162.25	450.00	124.00	255.00	270.80
Mar-09	66.50	180.00	184.95	450.00	116.00	220.00	270.80
Apr-09	70.00	216.00	220.35	370.00	116.00	195.00	236.93
May-09	71.50	215.00	219.75	370.00	110.90	215.00	245.71
Jun-09	77.25	237.00	243.80	370.00	118.00	225.00	241.22
Jul-09	84.00	251.00	261.65	470.00	140.00	301.67	250.24
Aug-09	92.75	281.00	292.30	570.00	148.50	320.67	260.73
Sep-09	88.75	282.00	293.45	570.00	166.50	340.00	249.01
Oct-09							
Nov-09							
Dec-09							
Jan09- Jan 08	-44.20	-167.00	-174.50	-530.00	-99.06	-160.00	-21.00
\$Change							
Jan09-Jan08	-37.14	-52.19	-52.61	-54.08	-40.26	-38.55	-7.58
%Change							
Sept 09- Jan 09	13.95	129.00	136.25	120.00	19.50	85.00	-6.99
\$Change							
Sept 09-Jan09	18.65	84.31	86.67	26.67	13.27	33.33	-2.73
%Change							
2008 Average	126.64	322.50	338.99	783.33	242.43	575.50	382.34

PMPA Raw Materials Index

Prices are as published, do not include surcharges.

Aluminum , Comex Spot close, cents/pound

Brass Scrap, Copper Brass mill #1, cents/pound

Copper, Comex High Grade Cathode, cents/pound

Nickel, Scrap clips and solids, cents per pound

Stainless, 303 CD bars, cents/pound

Steel Busheling, #1, AMM Composite, \$/gross Ton

Coke- anecdotal reports

About the commodities selected for tracking:

The items selected were chosen as indicators of costs for the materials commonly used by our industry.

They were selected because they were available and published, rather than a transaction price which might be confounded with other commercial objectives or geographic market peculiarities.

Aluminum- The use of the Comex Spot close price should need no explanation.

Brass Scrap, Copper Brass mill, #1 was chosen as indicative of the general trend for high quality Brass Scrap for recycling.

Copper, Comex High Grade Cathode was chosen as indicative of costs for "new Copper" to be added to the existing Brass Metal inventory available.

Nickel, Scrap clips and solids was chosen as a proxy indicator for understanding Stainless Steel and High Temp alloys which typically are high % Nickel content. (303-8-10%; 316 10-12%; Hastelloy- Greater than 50%)

Stainless- 303 bars this number is published but we do not see it as realistic and provide it strictly for information.

Steel- Busheling Composite. This indicator was selected as it correlated to the #1 bundles we used prior, now obsolete. It is a factor in the determination of most mill surcharges.

Coke- Coke is used in blast furnace production of Iron in order to produce steel by the Basic Oxygen Process (BOP). Blast furnaces use the coke to provide support for the burden (iron ore, limestone, bushellings, sinter etc.), sensible heat, and carbon monoxide reactant to reduce the oxide in the ore to pure iron. Coke itself is produced by blending a mixture of low- and high- volatility and ash coals and processing them at very high temperatures to distill out volatile organics leaving a strong porous cellular solid which is the critical ingredient for the Blast furnace- BOP producer. This process is daunting from an environmental impact point of view. ***Without coke, there is no blast furnace iron; Without blast furnace iron, there is no BOP steel.***

Quarterly averages have been calculated and used for this report for years prior to 2005 in order to tidy up the presentation of data.

Miles Free

**Quarterly Averages
PMPA Material Impacts**

	Aluminum	Brass	Copper	Nickel	Stainless	Steel BDLS	Coke , China
2003	65.60	77.50	78.21	310.23	111.00	114.55	
	65.84	79.48	80.15	312.50	105.00	124.05	
	66.77	81.93	82.02	325.12	102.00	131.00	
3rd Qtr.	66.07	79.64	80.13	315.95	106.00	123.20	
	69.79	87.04	88.20	359.67	102.00	132.00	
	70.67	92.22	92.76	419.72	105.33	145.33	
	73.52	98.76	99.67	452.50	106.00	162.43	
4th Qtr.	71.33	92.67	93.54	410.63	104.44	146.59	
2004	76.29	108.80	110.28	562.50	106.00	182.00	
	80.40	120.00	121.60	565.00	106.00	275.00	182.00
	84.65	137.00	139.70	525.00	121.50	295.00	460.00
1st Qtr.	80.45	121.93	123.86	550.83	111.17	250.67	321.00
	88.65	136.00	137.10	500.00	121.50	270.00	450.00
	80.85	123.50	124.70	425.00	121.50	240.00	410.00
	83.45	128.00	129.25	500.00	121.50	250.00	325.00
2nd Qtr.	84.32	129.17	130.35	475.00	121.50	253.33	395.00
	84.30	130.00	131.30	550.00	121.50	395.00	
	84.30	131.00	131.55	520.00	121.50	395.00	
	90.95	135.00	139.90	520.00	153.50	375.00	310.5
3rd Qtr.	86.52	132.00	134.25	530.00	132.17	388.33	310.50
	91.30	142.00	147.35	600.00	157.00	415.00	239.00
	89.45	140.00	144.50	500.00	157.00	430.00	239.00
	94.25	145.00	149.10	500.00	157.00	430.00	280.00
4th Qtr.	91.67	142.33	146.98	533.33	157.00	425.00	252.67
2005	93.60	145.00	149.50	500.00	157.00	370.00	280.00
	95.05	144.00	150.25	550.00	157.00	315.00	230.00
	96.65	146.00	151.05	550.00	157.00	255.00	230.00
1st Qtr.	95.10	145.00	150.27	533.33	157.00	313.33	246.67
	93.50	149.00	154.20	600.00	157.00	270.00	230.00
	85.50	144.00	161.40	650.00	160.00	215.00	230.00
	80.25	149.00	153.00	650.00	160.00	145.00	210.00
2nd Qtr.	86.42	147.33	156.20	633.33	159.00	210.00	223.33
	84.40	153.00	163.00	560.00	160.00	170.00	210.00
	89.80	168.00	177.95	540.00	160.00	230.00	210.00
	89.00	173.00	187.65	540.00	160.00	285.00	210.00
3rd Qtr.	87.73	164.67	176.20	546.67	160.00	228.33	210.00
	91.90	181.00	196.80	520.00	166.00	235.00	185.00
	101.55	193.00	218.00	480.00	166.00	285.00	130.00
	105.10	208.00	228.00	500.00	166.00	280.00	150.00
4th Qtr.	99.52	194.00	214.27	500.00	166.00	266.67	155.00
2005 Average	92.19	162.75	174.23	553.33	160.50	254.58	208.75

Table A Supplemental Calculations

**Quarterly Averages
PMPA Material Impacts**

	Aluminum	Brass	Copper	Nickel	Stainless	Steel BDLS	Coke , China
2006	115.50	221.00	229.65	550.00	166.00	280.00	120.00
	122.25	229.00	233.65	550.00	166.00	275.00	148.00
	116.50	245.00	250.35	550.00	135.00	294.00	148.00
1st Qtr.	118.08	231.67	237.88	550.00	155.67	283.00	138.67
	130.60	320.00	348.30	700.00	135.00	294.00	138.00
	146.00	373.50	407.55	810.00	135.00	315.00	138.00
	120.00	345.00	369.10	810.00	135.00	342.00	140.00
2nd Qtr.	132.20	346.17	374.98	773.33	135.00	317.00	138.67
	121.50	357.00	382.95	910.00	135.00	342.00	140.00
	116.60	351.00	366.50	1150.00	135.00	342.00	125.00
	122.25	348.00	372.20	1150.00	135.00	285.00	125.00
3rd Qtr.	120.12	352.00	373.88	1070.00	135.00	323.00	130.00
	129.10	327.50	356.00	1050.00	245.00	275.00	164.50
	127.10	318.00	334.55	1050.00	245.00	245.00	164.50
	128.00	304.00	323.45	1150.00	243.00	230.00	150.00
4th Qtr.	128.07	316.50	338.00	1083.33	244.33	250.00	159.67
2006 Average	124.62	311.58	331.19	869.17	167.50	293.25	141.75
2007	128.50	266.00	265.15	1250.00	243.00	260.00	185.00
	130.00	281.00	285.25	1250.00	253.00	295.00	185.00
	125.50	306.50	314.35	1350.00	265.00	365.00	190.00
1st Qtr.	128.00	284.50	288.25	1283.33	253.67	306.67	186.67
	128.85	358.00	367.40	1350.00	287.00	365.00	185.00
	129.25	367.00	375.05	1350.00	335.00	335.00	190.00
	125.35	338.50	346.55	1350.00	335.00	295.00	245.00
2nd Qtr.	127.82	354.50	363.00	1350.00	319.00	331.67	206.67
	122.65	353.00	375.40	1350.00	342.80	295.00	260.00
	117.30	339.00	359.50	1250.00	342.80	305.00	250.00
	110.00	347.00	363.60	980.00	262.63	330.00	250.00
3rd Qtr.	116.65	346.33	366.17	1193.33	316.08	310.00	253.33
	113.25	359.00	374.95	980.00	235.04	330.00	360.00
	117.25	320.00	335.60	980.00	245.25	320.00	360.00
	110.00	303.00	315.50	980.00	245.25	335.00	277.00
4th Qtr.	113.50	327.33	342.02	980.00	241.85	328.33	332.33
2007 Average	121.49	328.17	339.86	1201.67	282.65	319.17	244.75

**Quarterly Averages
PMPA Material Impacts**

	Aluminum	Brass	Copper	Nickel	Stainless	Steel BDLS	Coke , China
2008	119.00	320.00	331.70	980.00	246.06	415.00	277.00
	139.75	374.00	386.35	980.00	246.06	415.00	365.30
	143.75	382.00	398.95	980.00	238.62	430.00	365.30
1st Qtr.	134.17	358.67	372.33	980.00	243.58	420.00	335.87
	140.00	389.00	402.80	980.00	244.09	600.00	389.40
	137.00	379.00	397.85	930.00	267.10	700.00	389.40
	146.30	373.00	389.55	840.00	267.10	785.00	389.00
2nd Qtr.	141.10	380.33	396.73	916.67	259.43	695.00	389.27
	150.00	378.00	407.75	840.00	264.47	890.00	875.00
	133.25	343.00	362.85	770.00	255.35	883.00	438.07
	123.75	322.00	342.95	770.00	243.21	853.00	438.07
3rd Qtr.	135.67	347.67	371.18	793.33	254.34	875.33	583.71
	110.25	274.00	285.70	660.00	223.94	570.00	232.00
	96.75	184.00	201.10	370.00	206.58	130.00	232.00
	79.85	152.00	160.35	300.00	206.58	235.00	197.50
4th Qtr.	95.62	203.33	215.72	443.33	212.37	311.67	220.50
2008 Average	126.64	322.50	338.99	783.33	242.43	575.50	382.34
2009	74.80	153.00	157.20	450.00	147.00	255.00	256.00
	67.75	156.00	162.25	450.00	124.00	255.00	270.80
	66.50	180.00	184.95	450.00	116.00	220.00	270.80
1st Qtr.	69.68	163.00	168.13	450.00	129.00	243.33	265.87
	70.00	216.00	220.35	370.00	116.00	195.00	236.93
	71.50	215.00	219.75	370.00	110.90	215.00	245.71
	77.25	237.00	243.80	370.00	118.00	225.00	241.22
2nd Qtr.	72.92	222.67	227.97	370.00	114.97	211.67	241.29
	84.00	251.00	261.65	470.00	140.00	301.67	250.24
	92.75	281.00	292.30	570.00	148.50	320.67	260.73
	88.75	282.00	293.45	570.00	166.50	340.00	249.01
3rd Qtr.	88.50	271.33	282.47	536.67	151.67	320.78	253.33