Material Impacts
On The Precision Machining Industry

February 2008

Consolidation Continues as Prices Rise

Executive Summary

There comes a point where rising prices for raw materials raises the prices of the machined products made from those materials, thus encouraging the importation of foreign produced finished products. We are beginning to think that the weak dollar is our only defense…

Republic Engineered Products has announced a $35 dollar per ton price increase for carbon and alloy cold finished steel bars for April. Laurel Steel has announced it will follow. This is in addition to all surcharges in effect.

Technical member Bolton Metal Products Co. announced that it was closing its brass rod division, and selling certain assets to technical member Chase Brass & Copper Co., Inc.. Chase is a subsidiary of Global Brass & Copper, an affiliate of KPS Capital Partners, LP, who purchased Chase from Olin Corporation last November.

Increased consumption of copper, steel, stainless steel and aluminum per capita GLOBALLY seems to be the explanation for ongoing price increases here in North America, despite locally soft demand. Higher price per pound for most metallic materials are just a container voyage away in today's increasingly globalized market, thus keeping prices in North America above what apparent demand would indicate.

Steel inventories at metals service centers in the United States and Canada closed 2007 up slightly from November levels as year-over-year shipments in both countries fell 4.1% from those of December 2006, the Metals Activity Report from the Metals Service Center Institute shows. U.S. steel inventories at the end of the year were up 1%, to 12.26 million tons, from November's month-end supply. Although shipments were below year-ago levels again in December, it appears that the liquidation phase of the inventory cycle may have come to end. Service center inventories of steel and aluminum in the United States and Canada all increased in December. For the U.S. steel segment, this is the first increase since the October 2006 inventory peak of 16.8 million tons.

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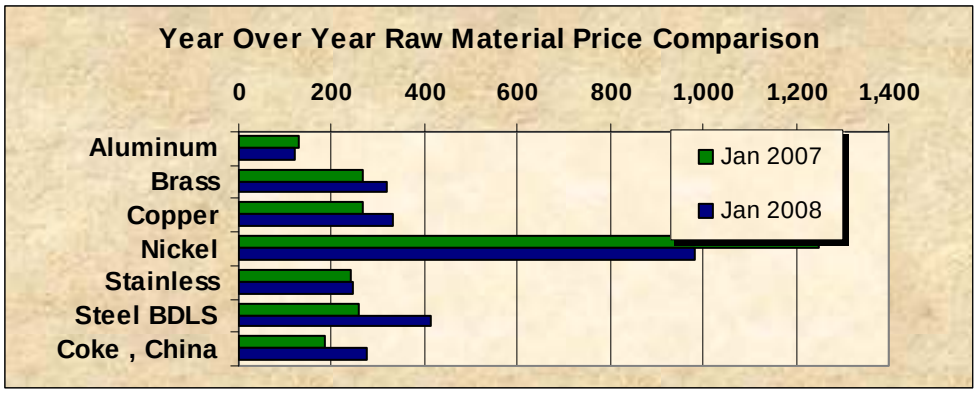


Aluminum *(cents per pound Comex Spot close)*

Interval	*% Change*	*$ Change*	*Commodity Price (cents/lb)*	***Dec 2007***	***Jan 2008***
Jan2008-Jan2007	**-8.23**	**- 9.50**	*Maximum*	**110.00**	**119.00**
			Most Frequent	**107.11**	**105.00**

The average price of aluminum in 2006 was up 35.16% over the average in 2005.

Based on Aluminum Association surveys, U.S. primary aluminum production totaled 2,559,673 metric tons (tonnes) in 2007. This is an increase of 12.2 percent over the 2006 total of 2,280,916 tonnes. For the month of December 2007, the annual rate of production totaled 2,712,197 tonnes, up 17.7 percent over from the December 2006 annual rate of 2,303,998 tonnes. Compared to the previous month, the annual rate of production rose 1.5 percent over the November 2007 total of 2,673,297 tonnes. Actual production for the month of December 2007 totaled 230,351 tonnes.

The annual rate of primary aluminum production in December 2007 represents the highest rate of production since April 2003, when domestic production was recorded at 2,739,958 tonnes. Participating companies account for 100 percent of U.S. primary aluminum production. Here's the link: http://tinyurl.com/26nt87

However, aluminum extruded rod and bar shipments were reported to be down significantly (11% or more) in November due to the residential building slump.

Packaging materials supplier Alcoa has committed to increase aluminum can recycling participation in North America from 52 percent to 75 percent by 2015. In 1992, Alcoa says the recycling rate was at 68 percent, and countries such as Brazil and Japan report over 90 percent participation. The global average is 60 percent.

The aluminum commodity that we track is currently selling for below last year's average price.

Average price in 2007: **$1.22 per pound**

(**Energy is the main issue for aluminum producers**, and increases in energy costs find their way quickly into the light metal's pricing. Increasing energy prices do not bode well for a strong and sustainable aluminum industry in North America. China is power short, which makes this material especially problematic for their planners.)

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

Average price in 2007: **$3.28 per pound.**

Interval	*% Change*	*$ Change*	*Commodity Price (cents/lb)*	***Dec 2007***	***Jan 2008***
Jan2008-Jan2007	**24.43**	**54.00**	*Maximum*	**303**	**320**
			Most Frequent	**286**	**315**

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

Interval	*% Change*	*$ Change*	*Commodity Price (cents/lb)*	***Dec 2007***	***Jan 2008***
Jan2008-Jan2007	**28.98**	**66.55**	*Maximum*	**315.50**	**331.70**
			Most Frequent	**300-301**	**317-318**

Fuel surcharge seen increased by 3% to ~30% above standard freight rate. Energy Surcharge Zero.

Increasing scrap and commodity prices result in a price increase dated 8 Feb 2008 for shipments effective Monday, 11 Feb 2008: Published metal selling price will increase 15 cents to $3.30 per pound. Published scrap price will increase 15 cents to $3.16 per pound. https://www.chasebrass.com/company/index_surcharge.jsp

Sustained global demand, and the rising exports of copper scrap to Asia continues to drive this market. The closing of the Bolton Metal Products brass rod division will eliminate a degree of freedom in the brass market that the precision machined products industry has enjoyed. Consolidation should result in economies of scale for the remaining suppliers, but decreased number of suppliers is the constraint the machining industry will now face.

Average price in 2007: **$3.39 per pound.**

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

Interval	*% Change*	*$ Change*	*Commodity Price (cents/lb)*	***Dec 2007***	***Jan 2008***
Jan2008-Jan2007	**-49.09**	**-270.00**	*Maximum*	**9.80**	**9.80**
			Most Frequent	**9.70-9.80**	**9.70-9.80**

The average price of nickel in 2007 was up 117% over the average in 2005.
According to the INSG, global refined nickel consumption is expected to fall to 1.35 million tonnes this year from 1.4 million tonnes last year, following a slump in stainless steel production in most parts of the world. Reduced demand for refined nickel and nickel-containing scrap in the second half of this year was also a factor. INSG earlier predicted (and we published) that 2007 will close with a ***120,000 metric tonne surplus in nickel production this year.***

Average price in 2007: $12.01per pound, 38% above 2006 avg. of $869.17.
(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****- January $1.40; February: $1.22; these are calculated on a two month lag.*

ITA data released Jan 29, 2008 show that overall **steel imports in December 2007 decreased 14.89 percent from November 2007**. The change from December 2006 to December 2007 was 34.27 percent decrease. All Stainless Products category was down 20.46 percent December to December. ***Link:***
http://ia.ita.doc.gov/steel/license/news/monthly_SIMA_factsheet.pdf

We have seen announcements of planned increases in surcharges for stainless in March, with reports that some stocking vendors are charging a premium for floor stock being purchased in February ahead of the higher March anticipated surcharges.

No, there is NOT any Hexavalent Chromium in Stainless Steels:
http://www.ssina.com/news/releases/pdf_releases/02_22_06.pdf

Steel *(dollar per gross ton, Consumer Number 1 bundles, Chicago)*

Interval	*% Change*	*$ Change*	*Commodity Price ($/gr.ton)*	***Dec 2007***	***Jan 2008***
Jan2008-Jan2007	**55.36**	**155.00**	*Maximum*	**335**	**415**
			Most Frequent	**335**	**415**

The average price of steel bundles in 2007 was up 8.8% over the average in 2006. Up
Surcharges: January 2008 Material Surcharges for Cold Finished Bars: $8.75; February 2008 $12.75

Last month, PMPA published the 2008 Cold Finished Bar Market Outlook prepared by Roger Bassett, President and CEO of Plymouth Steel. His conclusion is worthy of repeating today: *"In general, there appears to be an upward price trend for cold finished bar in the US because of supply side influences on cost. Availability in the USA does not seem to be an issue at the moment. For planning purposes, it would seem prudent to expect some significant increase in prices, particularly in the first quarter and continuing again into the rest of the year, as the supply side cost increases cause inventory values to rise, and as US demand begins to recover." You can read the full report here: http://www.pmpa.org/files/bulletin_file/2008_SBQ_Steel_Market_-_RBassett.doc*

We have received price increase announcements for April 2008 from Republic Engineered Products Inc. and Laurel Steel. We concur with Mr. Bassett's thesis and expect steel prices to rise substantially in the months ahead.

Production, Shipments, Inventories

The American Iron and Steel Institute (AISI) reports that in the week ending February 9, 2008, domestic raw steel production was 2,118,000 net tons while the capability utilization rate was 88.8 percent. Production was 2,126,000 tons in the week ending February 9, 2007, while the capability utilization then was 89.5 percent. The current week production represents a 0.3 percent decrease from the same period in the previous year. Production for the week ending February 9, 2008 is down 0.7 percent from the previous week ending February 2, 2008 when production was 2,134,000 tons and the rate of capability utilization was 89.5 percent.

Adjusted year-to-date production through February 9, 2008 was 12,514,000 tons, at a capability utilization rate of 87.4 percent. That is an 8.7 percent increase from the 11,511,000 tons during the same period last year, when the capability utilization rate was 87.0 percent. Source: www.steel.org

December shipments of steel products from U.S. metals service centers totaled 3.34 million tons, down 4.1%. For the full year, U.S. steel shipments were 52.18 million tons, 6.8% below 2006 steel shipments. The year-end steel inventory figure was 25.7% lower than inventories at the end of 2006. At current shipping rates, the year-end total inventory was equal to a 3.7-month supply.

In Canada, steel product shipments from metals service centers were 226,200 tons in December, down 4.1%. Full-year 2007 steel shipments of 3.7 million tons were down 6.7% from 2006 steel shipments. The year-end inventory was 8.6% lower than inventories at the end of 2006 and, at current shipping rates, represented a 5.1-month supply. Source: www.MSCI.org

Steel producer Nucor has announced a $1.44 billion vertical integration acquisition of scrap processor David J Joseph.

Average price in 2007: **$319.17 per gross ton, up 8.8% over 2006 average.**

Coke **(Chinese) ($ per metric tonne)**

The average price of Chinese Coke in 2007 was up 737% over the average in 2006.

BEIJING, Jan 30 (Reuters) - Power and transport outages due to snow have reduced coal and coke stocks at some Chinese steel mills to critical levels, with less than 3 days' worth of supplies in some areas, according to the China Iron and Steel Association. http://tinyurl.com/2xnrz5 This is confirmed by a piece in China Economic Review that reports that coke is in such short supply that major steelmakers such as Baosteel have stockpiles of about five day's worth of coke.

The Wall Street Journal reported Tuesday Feb 12, 2008 that China "imported more coal than it exported for the first time, setting off a near doubling of most coal prices around the world." China Coal Monthly reported January 28, that "coke prices hit record highs." Interfax News Service attributes the high prices to "tight supplies and transportation bottlenecks in China."

"Tight transportation, caused by the recent severe snowfalls, as well as decreased coke production in Shangxi is responsible for the increased coke prices. Moreover, I don't think the tight coke supply will ease up until early March."- Umetal analyst Wang Ling in Beijing.

Weather in China is now a factor that has the power to "tip" global prices for steel globally as China is the coke producer for the world. Add weather to the list of factors- environmental pressure, supply constraints, changes in export tax schemes, and prioritizing steam coal- that are responsible for increased prices of coke and steel worldwide.

Look for higher steel prices down the road as a result of coke's current record pricing.

Average price in 2007: **$244.75 vs. $141.75 per tonne in 2006.**

(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.)

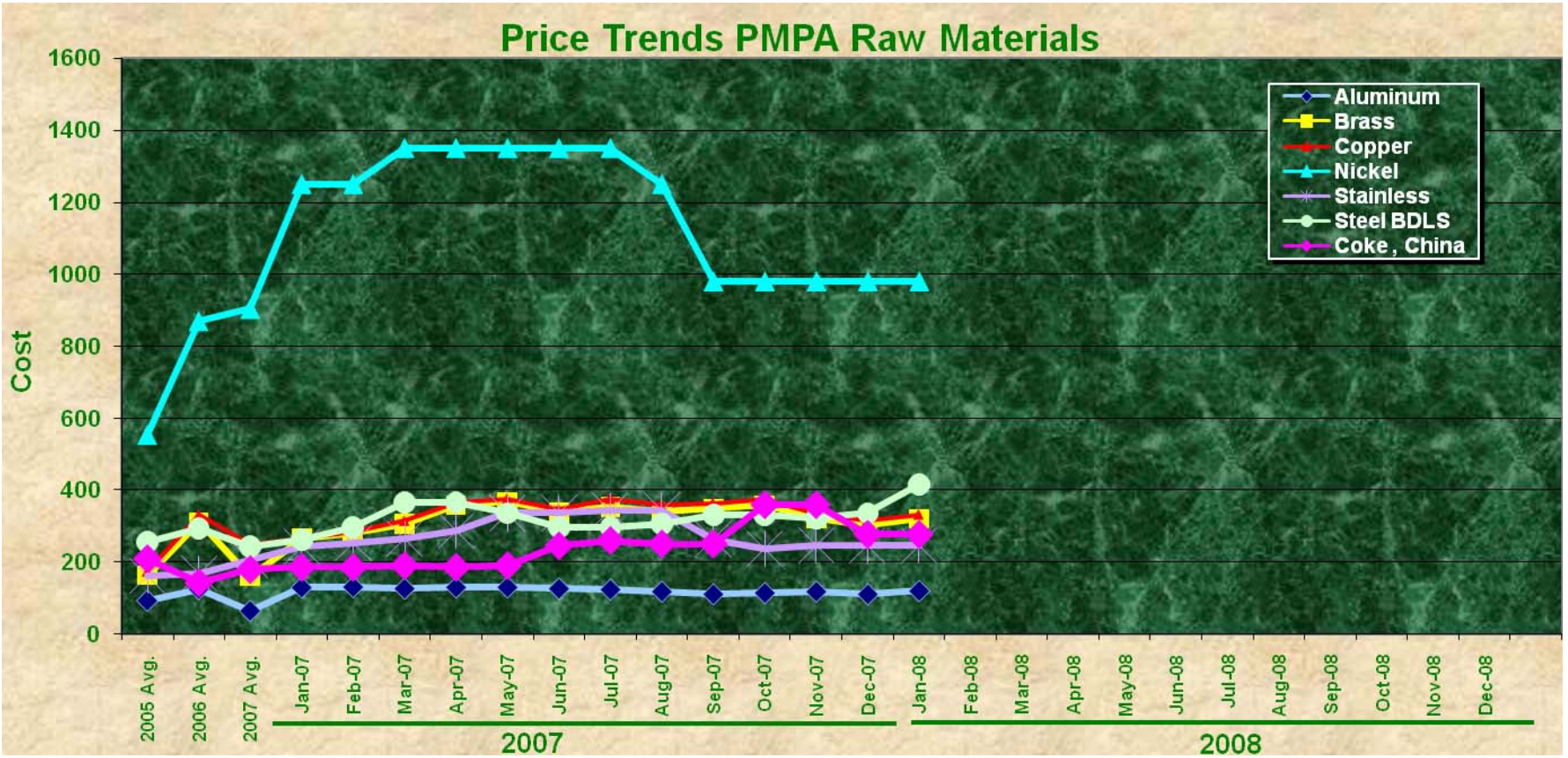
China Developments

Foreign direct investment (FDI) in China reached a new record of US$82.7 billion in 2007, AFP reported. In a statement on Monday, the Chinese commerce ministry said this marked a 13.8% increase over the previous year. It is estimated that China's economy grew by 11.5% over the same period, the fifth consecutive year growth has been higher than 10%. Analysts note that high FDI levels pose a challenge for the government as it tries to rein in the economy. Investment levels are expected to increase further this year despite fears of a US recession as investors take advantage of China's expanding economy. Source: China Economic Review. http://tinyurl.com/ysqhhz

Currency: Still no substantive action on the revaluation of the Yuan.
http://tinyurl.com/22t7fj

The federal government's lack of ***ACTION*** on the manipulation of currency exchange rates by the Chinese government remains a critical concern for the sustainability of North American Manufacturing. ***If not now, in an election year, then when?***

-Miles Free
Director, Industry Research and Technology
Precision Machined Products Association


Price Trends PMPA Raw Materials
Cost
1600
1400
1200
1000
800
600
400
200
0
Aluminum
Brass
Copper
Nickel
Stainless
Steel BDLS
Coke , China
2005 Avg.
2006 Avg.
2007 Avg.
Jan-07
Feb-07
Mar-07
Apr-07
May-07
Jun-07
Jul-07
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Sep-07
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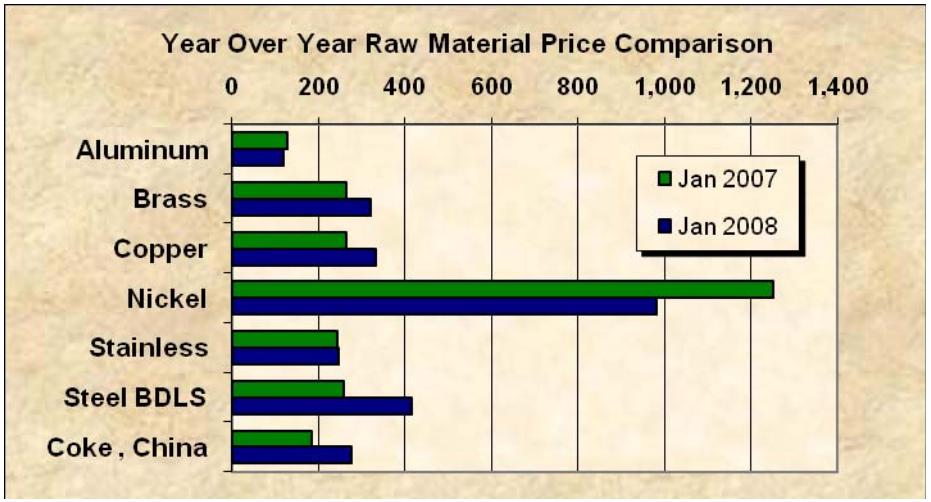
2007
2008


Year Over Year Raw Material Price Comparison
0
200
400
600
800
1,000
1,200
1,400
Aluminum
Brass
Copper
Nickel
Stainless
Steel BDLS
Coke , China
Jan 2007
Jan 2008

PMPA Raw Materials Index

	Aluminum	Brass	Copper	Nickel	Stainless	Steel BDLS	Coke , China
2005 Avg.	92.19	162.75	174.23	553.33	160.50	254.58	208.75
2006 Avg.	124.62	311.58	331.19	869.17	167.50	293.25	141.75
2007 Avg.	63.95	159.75	248.32	903.33	203.63	241.67	178.50
Jan-07	128.50	266.00	265.15	1250.00	243.00	260.00	185.00
Feb-07	130.00	281.00	285.25	1250.00	253.00	295.00	185.00
Mar-07	125.50	306.50	314.35	1350.00	265.00	365.00	190.00
Apr-07	128.85	358.00	367.40	1350.00	287.00	365.00	185.00
May-07	129.25	367.00	375.05	1350.00	335.00	335.00	190.00
Jun-07	125.35	338.50	346.55	1350.00	335.00	295.00	245.00
Jul-07	122.65	353.00	375.40	1350.00	342.80	295.00	260.00
Aug-07	117.30	339.00	359.50	1250.00	342.80	305.00	250.00
Sep-07	110.00	347.00	363.60	980.00	262.63	330.00	250.00
Oct-07	113.25	359.00	374.95	980.00	235.04	330.00	360.00
Nov-07	117.25	320.00	335.60	980.00	245.25	320.00	360.00
Dec-07	110.00	303.00	315.50	980.00	245.25	335.00	277.00
Jan-08	119.00	320.00	331.70	980.00	246.06	415.00	277.00
Feb-08							
Mar-08							
Apr-08							
May-08							
Jun-08							
Jul-08							
Aug-08							
Sep-08							
Oct-08							
Nov-08							
Dec-08							
Jan08- Jan 07 **$Change**	**-119.00**	**-320.00**	**-331.70**	**-980.00**	**-246.06**	**-415.00**	**-277.00**
Jan08-Jan07 **%Change**	***-92.61***	***-120.30***	***-125.10***	***-78.40***	***-101.26***	***-159.62***	***-149.73***
2006 Average	***121.49***	***328.17***	***339.86***	***1201.67***	***282.65***	***319.17***	***244.75***
2007 Average	***119.00***	***320.00***	***331.70***	***980.00***	***246.06***	***415.00***	***277.00***

Table A

mkf Dec 2007

PMPA Raw Materials Index

YTY%Change	***-100.00***	***-100.00***	***-100.00***	***-100.00***	***-100.00***	***-100.00***	***-100.00***

2005 Average Calculation updated August 2006

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
SteelBdls, #1, AMM Chicago, $/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 and can provide a "calibration" of your actual numbers to compare to your own experience.

Steel Bdls #1- AMM Chicago. This indicator was selected as it is indicative of make up of Electric Furnace process Steels for Special bar quality. While other scrap types are blended into a heat, the #1 bundle indicator is the best glimpse of price vs quality for electric furnace melted steels. Typically 95% or more of an electric furnace melt is scrap.
This indicator was also chosen because it plays a part in the calculation of some suppliers material 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.***

Table A

mkf Dec 2007

PMPA Raw Materials Index

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

Table A

mkf Dec 2007

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

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	292.00	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	309.00	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	318.92	244.75