Material Impacts
On The Precision Machining Industry

February 2007

Surcharges Exceed Base Prices; Finally a China Trade Action Edition

Executive Summary

We were alerted to the fact that raw materials surcharges for materials, particularly certain Stainless items, are in some cases exceeding the base price of those materials. Due to the way that the surcharges are calculated, the higher prices that were paid for nickel and other expensive ingredients in prior months are just now entering the current month's surcharge calculations.

These past and current highs will be incorporated into our industry's raw materials surcharges for the next few months. Just as we show the prices for various raw materials in this report as leading indicators for the specific products that you buy, today's nickel price seems like a pretty good indicator of what the costs (surcharges + prices) will be for the next three to five months. We'll keep you posted if we see Nickel prices begin to weaken.

Copper fell to below $300 in mid December, the first time since March of 2006. Copper price is off almost 18% in January 2007 compared to year end 2006. Steel appears to be in oversupply when looking at inventory levels in North America, due in part to record imports in 2006. While major North American mills have reduced operations, cold finishers are staying busy producing materials for our industry's consumption. The incredible buildup of steelmaking capacity in China remains a concern due to the scale of the investments.

This just in: The U.S. has charged China with violating World Trade Organization standards by subsidizing its steel, wood products, IT, and other industries, in what is said to be the largest trade complaint ever lodged against China at the WTO. According to the agreement that admitted China to the WTO in 2001, industrial subsidies are prohibited. Here's a link: http://tinyurl.com/ys9cl9

China's trade surplus versus the U.S. amounted to $213.5 billion over the first 11 months of 2006 — reportedly almost 30% of the total U.S. shortfall. Over the same 11-month period in 2005, that figure was $185.3 billion.

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Aluminum *(cents per pound Comex Spot close)*

Interval	*% Change*	*$ Change*	*Commodity Price ($/lb)*	***Dec 2006***	***Jan 2007***
Jan2007-Jan2006	**11.26**	**13.00**	*Maximum*	**128.00**	**128.50**
Nov 2006-Jan2007	**1.40**	**1.10**	*Most Frequent*	**126.00**	**120.50**

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

Aluminum prices have remained above $1.00 per pound since November of 2005. Aluminum would seem to be the bargain of the commodities that we track, posting a mere 11.26 % gain since January 2006. We have seen an increasing utilization of aluminum in upcoming automotive applications as a result of a combination of its engineering properties and its relative price stability. Its lightness is making it a desired material for weight reduction in automotive applications, especially wheels and engine blocks.

Average price in 2006: **<u>$1.25 per pound</u>**

(**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)*

Interval	*% Change*	*$ Change*	*Commodity Price ($/lb)*	***Dec 2006***	***Jan 2007***
Jan2007-Jan2006	**20.36**	**45.00**	*Maximum*	**304**	**266**
Nov 2006-Jan2007	**-16.35**	**-52.00**	*Most Frequent*	**276**	**250**

See copper below.

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

Interval	*% Change*	*$ Change*	*Commodity Price ($/lb)*	***Dec 2006***	***Jan 2007***
Jan2007-Jan2006	**15.46**	**35.50**	*Maximum*	**323.45**	**265.15**
Nov 2006-			*Most Frequent*		

Jan2007	**-20.74**	**-69.40**		**300**	**258.85**

The average price of copper in 2006 was up 90.08% over the average in 2005.

Energy surcharges we have seen include 7% for one supplier due to state electrical rate deregulation; freight surcharge seen decreased about 3% to ~24% *above standard freight rate.*

Prices are tracking downward for the red metal (OK, mostly its yellow metal in our shops) from 2006 highs for the commodities that we track. However, the January 2006 to January 2007 copper price is up 15.5%.

High grade cathode is **up** ***over 300% since June 2003 when it traded at 77 cents per pound. These materials have remained above $2.00 per pound for 13 months in a row.***

Global demand, particularly in China explains the continued high price for copper based materials; in 1985 China was 4% of world refined copper market; in 2005 it is 16% of world refined copper market and the biggest overall user of copper in the world. (International Copper Study Group)

Average price in 2006: **$3.31 per pound.**

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

Interval	*% Change*	*$ Change*	*Commodity Price ($/lb)*	***Dec 2006***	***Jan 2007***
Jan2007-Jan2006	**127.27**	**700**	*Maximum*	**11.50**	**12.50**
Nov2006-Jan2007	**200**	**19.05**	*Most Frequent*	**11.50**	**11.50**

The average price of nickel in 2006 was up 57.08% over the average in 2005.

Remember the **Queen** song, "**Another One Bites The Dust**?" That would seem to be the theme song for the record high prices for nickel these days. Prices of nickel, used to make stainless steel, have doubled in seven months to $37,000 a metric ton, after reaching their highest prices in more than two centuries of trading on Jan. 26. Driving these record prices - consumption has skyrocketed in China due to stepped up stainless-steel production. Nickel prices are so high and available stocks so low that the U.S. Mint last December banned exports of US coinage to prevent scrap merchants from melting them down. The US 5-cents coin, has a metal content that is currently worth about 7 cents. Link: **http://tinyurl.com/yf8ax2**

The impact on the Precision Machined Products Industry is that these high nickel prices 'lag' getting into the surcharge calculations, so that it is the nickel price from one or two months ago that is in your current surcharge, and this month's higher nickel price will be raising the numbers in the surcharge calculated a couple of months from now. This 'lag' in the calculation actually makes nickel a ‘leading indicator’ for upcoming months surcharges for nickel containing materials like stainless and superalloys. *Hint: They won’t be decreasing in the next three to five months…*

Low inventories and an absence of reports of surplus nickel metal anywhere make high prices likely for the short, medium and long term. London Metal exchange prices seem to be routinely above $30,000 per tonne.

Average price in 2006: <u>$8.69per pound.</u>

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

Stainless

Stainless Surcharges for Feb 2007: *Ugine Stainless 303 per pound **Raw Materials Surcharge**-$1.43; this is based on a two month lag, so these are likely to increase for the next couple months for sure. Universal Stainless and Alloy Products, Inc. announced Sept 13 2006 an increase in its nickel surcharge to $.38 per pound over the London metal exchange price effective on shipments beginning Oct.1, 2006. This is still the last word on their website. Even American Metal Market has figured out that Stainless 303 bar prices have increased- currently showing $243 from the perennial $135 they published most of 2006.*

Since most producers surcharge mechanisms calculate on lagging averages, the total costs of nickel-containing materials are likely to continue to increase in the short term. This increase is predicated on the need for producers to recover the higher nickel costs of the past months.

Aerospace market outlook is very positive as the need to improve fuel consumption drives fleet retirement and replacement with more efficient aircraft.

Stainless Steel Imports
Overall imports of stainless steel products in December 2006 decreased 5 percent from their November 2006 level and were up 30 percent compared to December 2005 levels.
Stainless Hot-Rolled Bars - Imports of stainless hot-rolled bars in December 2006 increased 8 percent compared to November 2006 and were up 98 percent compared to December 2005 levels.
Stainless Cold-Finished Bars - Imports of stainless cold-finished bars in December 2006 were down 17 percent compared to November 2006. December 2006 imports were up 7 percent compared to December 2005. *(Source US Dept. of Commerce International Trade Administration.)*

Bottom line: Due to global tight supply of nickel and delays in bringing new nickel properties into production, stainless and other nickel containing alloys will continue to be difficult to find in stock and subject to high market prices due to low supply/ high demand. That’s the reality***. Deal with it by knowing your supplier, and getting your customer’s requirements as soon as possible.***

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

Interval	*% Change*	*$ Change*	*Commodity Price ($/gr.ton)*	***Dec 2006***	***Jan 2007***
Jan2007-Jan2006	**-7.14**	**-20.00**	*Maximum*	**230**	**260**
Nov 2006-Jan2007	**-6.12**	**-15.00**	*Most Frequent*	**230**	**260**

The average price of steel bundles in 2006 was up 15.2% over the average in 2005.

*Surcharges: **Scrap Surcharges** for February 2007 we've seen were in the $7.35 per cwt range for electric furnace steel plus an additional $0.25 for Manganese. **Blast Furnace Raw Material Surcharges** seen: $10.75 per cwt. (Electric furnaces are affected primarily by scrap costs; blast furnaces by coke and ore costs.) Additional surcharges for alloys, manganese, and vanadium are prevalent.*

The price for steel scrap (#1 bundles) rose $30 dollars a ton in January and is reportedly up another $35 for February.

Earnings by steelmakers are not going unnoticed in the investment markets. US Steel reported net income in 4th quarter nearly triple that of the prior year on Monday January 29th. ($2.50/share vs. $.85/share).

Global consolidation is still underway, as Korean steelmaker Hyundai Steel Co. has entered talks with Japan's second largest Steelmaker JFE Steel, and Germany's ThyssenKrupp on expanding their alliances. Closer to our interests, **Nucor**, parent of technical member **Nucor Cold Finish Wisconsin, Inc**., has inked a deal to buy Harris Steel, parent of PMPA technical member **Laurel Steel**. As of February 2, 2007 press reports show US federal antitrust authorities have given Nucor the green light on the purchase.

In the week ending February 3, 2007, domestic raw steel production was 1,965,000 net tons while the capability utilization rate was 84.1 percent. Production was 2,078,000 tons in the week ending February 3, 2006, while the capability utilization then was 86.4 percent. The current week production represents a 5.4 percent decrease from the same period in the previous year. Production for the week ending February 3, 2007 is up 2.3 percent from the previous week ending January 27, 2007 when production was 1,919,000 tons and the rate of capability utilization was 82.1 percent.

Adjusted year-to-date production through February 3, 2007 was 9,475,000 tons, at a capability utilization rate of 81.1 percent. That is a 6.4 percent decrease from the 10,133,000 tons during the same period last year, when the capability utilization rate was 85.6 percent. Source: www.steel.org

Steel shipments fell 10% in December compared with December 2005, to about 3.5 million tons. The full-year shipment total of 56 million tons was 2.4% higher than total shipments for 2005 and exceeded the previous annual shipping record of 55.6 million tons set in 2004. Year-end steel product inventories were 16.5 million tons, or 28% more than at the end of 2005. At the current shipping rate, this represents a 4.7-month supply, an increase of 42.2% from a year ago and an increase of 23.6% from November 2006. Source: www.MSCI.org

Michelle Applebaum Research reports that in December steel imports continued to fall. December imports came in at 3.0 million tons (mt), nearly 12% lower than November's 3.4 mt and over 30% below July's peak levels. However, full year 2006 imports rose 41% from 2005 levels to a record 45.3 mt reflecting surging exports to the U.S. from multiple countries, especially China and Russia. Michelle Applebaum Research is one of the foremost steel market analysts and is frequently quoted in industry publications as well as the Wall Street Journal.

Average price in 2006: **$293.25per gross ton.**

Coke (Chinese) ($ per metric tonne)

The average price of Chinese Coke in 2006 was down 32.1% over the average in 2005.

We have documented offering price of Coke of $150.

Average price in 2006: **$141.75 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 Developments

Trade Actions Update

Last edition we said "We are expecting 2007 to be a banner year for trade cases for steel- brought by both steel consumers (to eliminate tariffs and duties) and steel producers (to ward off huge volumes from China.)"

As we go to press, the U.S. has charged China with violating World Trade Organization standards by subsidizing its steel, wood products, IT, and other industries, in what is said to be the largest trade complaint ever lodged against China at the WTO. According to the agreement that admitted China to the WTO in 2001, industrial subsidies are prohibited. Here's a link:
http://tinyurl.com/ys9cl9

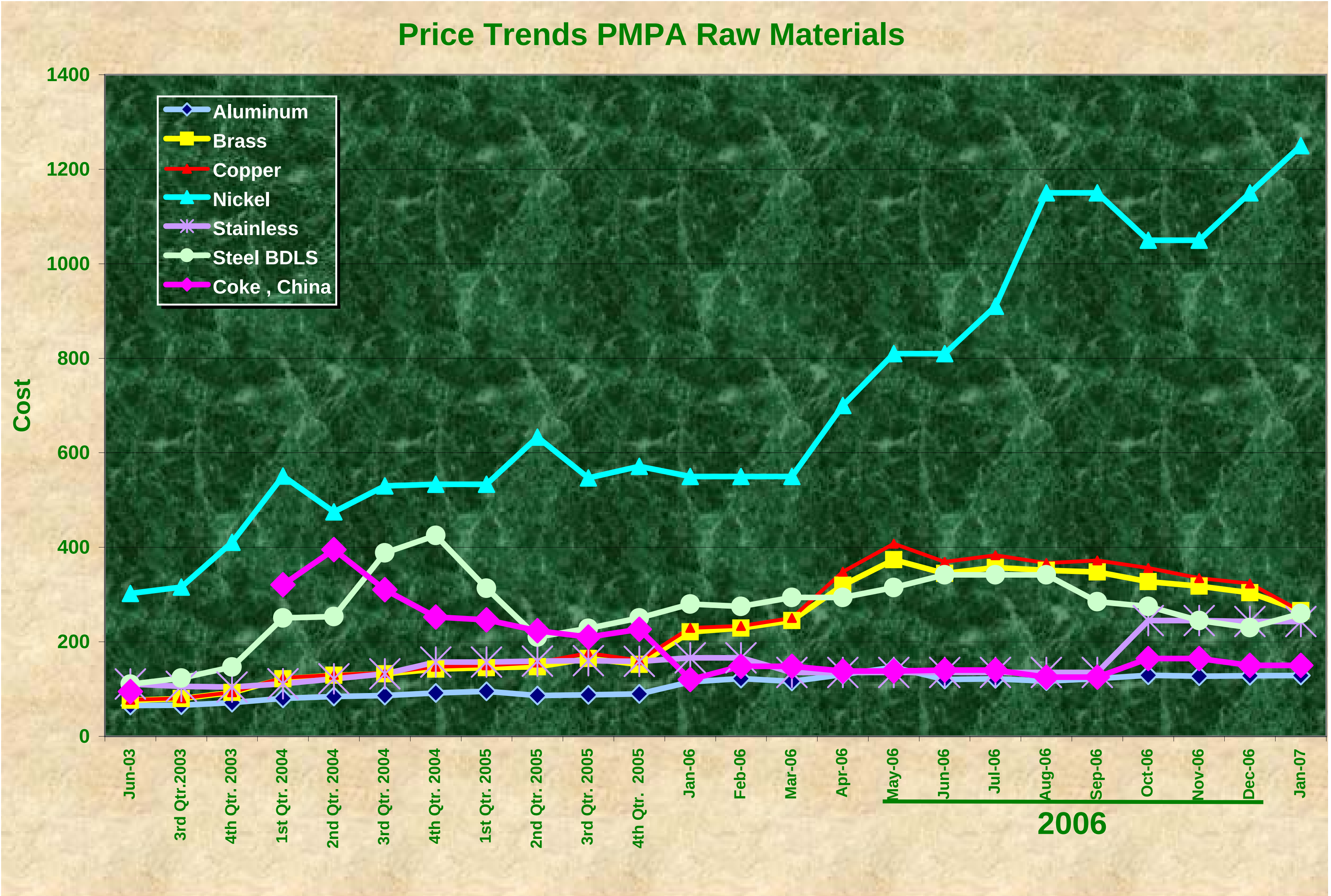
U.S. Trade Representative Susan Schwab stated: "China uses its basic tax laws and other tools to encourage exports and to discriminate against imports of a variety of American manufactured goods."

China's trade surplus versus the U.S. amounted to $213.5 billion over the first 11 months of 2006 — reportedly almost 30% of the total U.S. shortfall. Over the same 11-month period in 2005, that figure was $185.3 billion.

<u>Great report on the effect of Chinese demand for global commodities:</u>
http://hotdocs.usitc.gov/docs/pubs/research_working_papers/pub3864-200606.pdf
(This is a large download – 108 pages)

<u>Currency</u>: Still no substantive action on the revaluation of the Yuan. 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, when?***

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



mkf December 2006

PMPA Raw Materials Index

	Aluminum	Brass	Copper	Nickel	Stainless	Steel BDLS	Coke , China
Jun-03	65.14	76.29	77.11	302.50	111.00	110.14	95
3rd Qtr.2003	66.07	79.64	80.13	315.95	106.00	123.20	
4th Qtr. 2003	71.33	92.67	93.54	410.63	104.44	146.59	
1st Qtr. 2004	80.45	121.93	123.86	550.83	111.17	250.67	321.00
2nd Qtr. 2004	84.32	129.17	130.35	475.00	121.50	253.33	395.00
3rd Qtr. 2004	86.52	132.00	134.25	530.00	132.17	388.33	310.50
4th Qtr. 2004	91.67	142.33	146.98	533.33	157.00	425.00	252.67
1st Qtr. 2005	95.10	145.00	150.27	533.33	157.00	313.33	246.67
2nd Qtr. 2005	86.42	147.33	156.20	633.33	159.00	210.00	223.33
3rd Qtr. 2005	87.73	164.67	176.20	546.67	160.00	228.33	210.00
4th Qtr. 2005	89.75	152.33	160.89	571.11	158.67	250.56	226.67
Jan-06	115.50	221.00	229.65	550.00	166.00	280.00	120
Feb-06	122.25	229.00	233.65	550.00	166.00	275.00	148
Mar-06	116.50	245.00	250.35	550.00	135.00	294.00	148
Apr-06	130.60	320.00	348.30	700.00	135.00	294.00	138
May-06	146.00	373.50	407.55	810.00	135.00	315.00	138
Jun-06	120.00	345.00	369.10	810.00	135.00	342.00	140
Jul-06	121.50	357.00	382.95	910.00	135.00	342.00	140
Aug-06	116.60	351.00	366.50	1150.00	135.00	342.00	125
Sep-06	122.25	348.00	372.20	1150.00	135.00	285.00	125
Oct-06	129.10	327.50	356.00	1050.00	245.00	275.00	164.5
Nov-06	127.10	318.00	334.55	1050.00	245.00	245.00	164.5
Dec-06	128.00	304.00	323.45	1150.00	243.00	230.00	150
Jan-07	128.50	266.00	265.15	1250.00	243.00	260.00	150
Jan07- Jan 06 $**Change**	**13.00**	**45.00**	**35.50**	**700.00**	**77.00**	**-20.00**	**30.00**
Jan07-Jan06 **%Change**	***11.26***	***20.36***	***15.46***	***127.27***	***46.39***	***-7.14***	***25.00***
Nov06- Jan07 $**Change**	***1.40***	***-52.00***	***-69.40***	***200.00***	***-2.00***	***15.00***	***-14.50*** *
Nov06-Jan07 **%Change**	***1.10***	***-16.35***	***-20.74***	***19.05***	***-0.82***	***6.12***	***-8.81***
2005 Average	***92.19***	***162.75***	***174.23***	***553.33***	***160.50***	***254.58***	***208.75***

Table A

mkf December 2006

PMPA Raw Materials Index

2006 Average	***124.62***	***311.58***	***331.19***	***869.17***	***167.50***	***293.25***	***141.75***
YTY%Change	***35.17***	***91.45***	***90.08***	***57.08***	***4.36***	***15.19***	***-32.10***

2005 Average Calculation updated August 2006

*Coke only: change calculated Dec2004-July 2004

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.

Table A

mkf December 2006

PMPA Raw Materials Index

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

Table A

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
	85.50	144.00	161.40	650.00	160.00	215.00	230
	80.25	149.00	153.00	650.00	160.00	145.00	210
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
	89.80	168.00	177.95	540.00	160.00	230.00	210
	89.00	173.00	187.65	540.00	160.00	285.00	210
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
	101.55	193.00	218.00	480.00	166.00	285.00	130
	105.10	208.00	228.00	500.00	166.00	280.00	150
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