



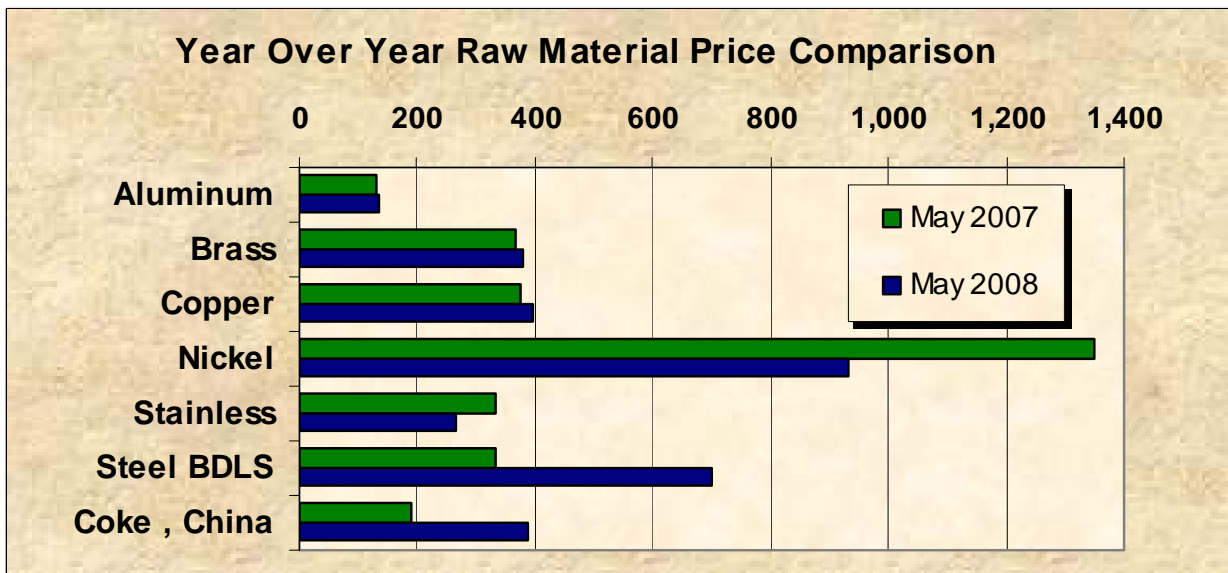
Material Impacts On The Precision Machining Industry

June 2008

Record High Prices, Lead Times Extending

Executive Summary

Steel, Up 109% Coke, Up 105%, Aluminum, Copper, Brass and Oil at record highs. Nickel and stainless show some softening of price. Five of the seven items we track are up over same month last year:



Good approach to communicating raw materials cost escalation with your customers:

"We continue to execute strategies designed to improve efficiencies and reduce operating costs, but it is essential that we implement price increases to recover these cost increases and sustain our viability as a valued supplier to our customers and their industries." -James L. Hambrick, Lubrizol's chairman, president and CEO. Lubrizol's raw material and energy costs have been impacted significantly by the unprecedented surge in crude oil and natural gas costs, both of which have increased over 40% since early 2008.

<http://www.industryweek.com/ReadArticle.aspx?ArticleID=16493>

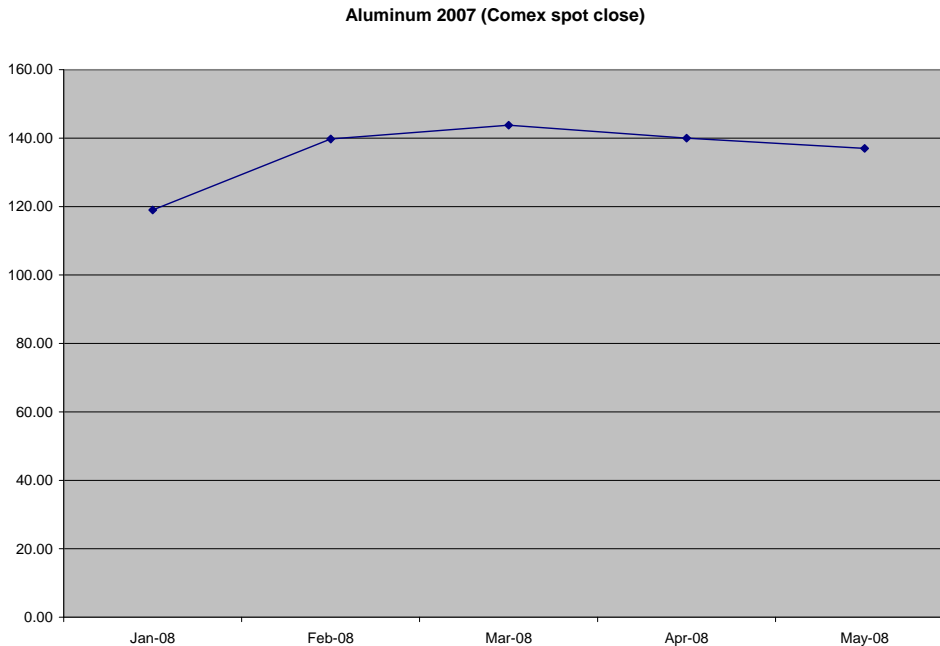
Coke in China is on a tear due to tight supplies of good quality metallurgical (coking) coal. Coking coal prices are up 60-70% since January. Reports that China has shut down about 1% of its electrical generating capacity due to coal shortages mean this will get worse before it gets better, as transportation will be prioritized for steam coal rather than coking coal.

The Metals Activity Report from the Metals Service Center Institute reports April shipments of steel products from U.S. service centers rebounded 3.3% to 4.65 million tons, compared with year-earlier volume, and month-end inventories finished at 12.4 million tons, 15.1% lower than April 2007, but up slightly (+2.6%) above March stocks.

Lead times are extending as inventories are lean and who wants to build inventory in a volatile market? So focusing on understanding what your suppliers can do for you may be the key to your improved performance in the months ahead. If you can get material and quote better delivery, delivery trumps cost...

Please see the Analysis of Foreign Currencies prepared by Georgetown Economic Services posted along with this report.

Aluminum (cents per pound Comex Spot close)



The average price of aluminum in 2006 was up 35.16% over the average in 2005, its now up 15.13% since January 2008.

Aluminum, Cont'd.

<i>Interval</i>	<i>% Change</i>	<i>\$ Change</i>	<i>Commodity Price (cents/lb)</i>	<i>April 2008</i>	<i>May 2008</i>
<i>Jan2008-Jan2007</i>	-8.23	- 9.50	<i>Maximum</i>	140	128
<i>May2008-Jan 2008</i>	15.13	18.00	<i>Most Frequent</i>	138-139	135-136

From the Aluminum Association

"Aluminum produced from scrap, uses only 5% of the energy that primary aluminum does. For example, in automotive applications aluminum reduces vehicle weight and increases mileage and performance without compromising safety."

"Nearly half of all aluminum cans are land filled each year. Recovering these cans would reduce greenhouse gas (GHG) and pollution emissions over 90 percent compared to primary production and reduce the need for new landfills. Today some 40 states, counties and cities participate in CVP, which works to increase recycling of all commodities in the consumer's bin, including aluminum."

"Aluminum automotive applications can lead to potential savings of 140 million tons of CO2 equivalent emissions and to energy savings equivalent to 55 billion liters of crude oil over the lifecycle of these vehicles"

The Aluminum Association reports in May that U.S. annual rate of primary aluminum production totaled 2,781,753 metric tons (tonnes) during May 2008, an increase of 12.4 percent over the May 2007 total of 2,475,771 tonnes. Compared to the previous month, the annual rate of production rose one-tenth of one percent over the April 2008 annual rate of 2,779,160 metric tonnes. The year-to-date annual rate of primary aluminum production totaled 2,768,713 tonnes, up 12.1 percent over the 2007 annual rate of 2,470,431. Actual production for the month of May 2008 totaled 235,613 tonnes.

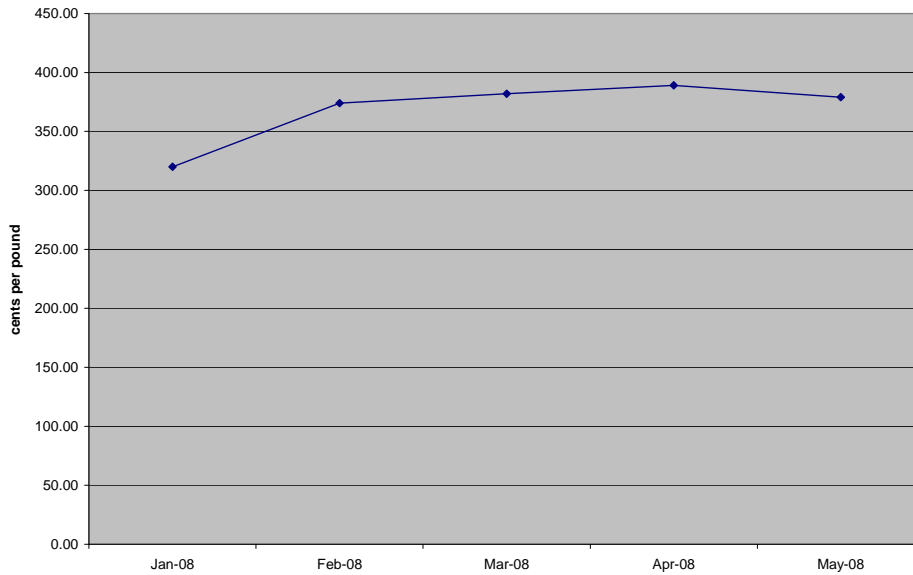
Average price in 2007: \$1.22 per pound

(Energy is the main issue for aluminum producers, and increases in energy costs find their way quickly into the light metal's pricing. Recycling saves 95% of the energy needed to produce Aluminum. 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. Up 18.44% since January 2008.

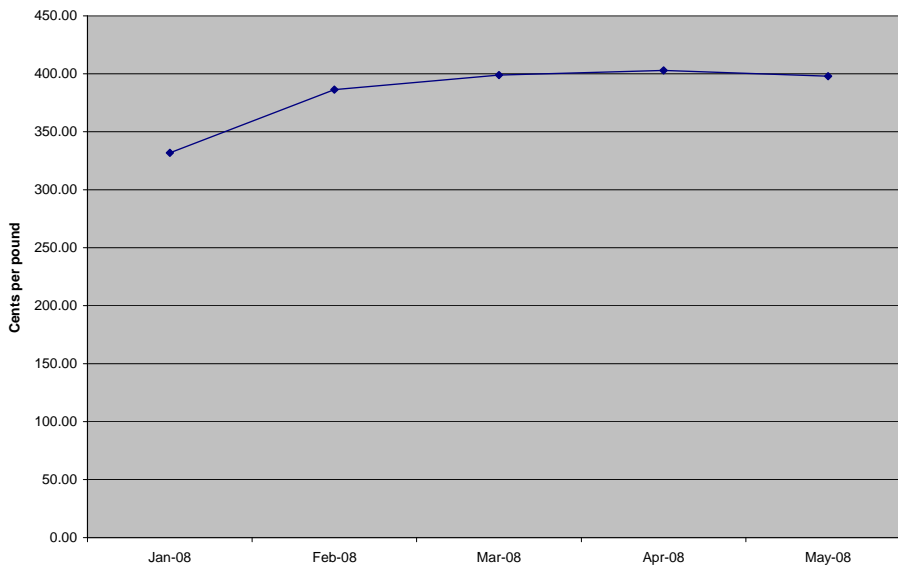
Brass (copper brass mill #1 scrap)



<i>Interval</i>	<i>% Change</i>	<i>\$ Change</i>	<i>Commodity Price (cents/lb)</i>	<i>April 2008</i>	<i>May 2008</i>
<i>Jan2008-Jan2007</i>	24.43	54.00	<i>Maximum</i>	370	337
<i>May 2008-Jan 2008</i>	18.44	59.00	<i>Most Frequent</i>	378-379	366

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

Copper (comex High grade cathode spot close)



<i>Interval</i>	<i>% Change</i>	<i>\$ Change</i>	<i>Commodity Price (cents/lb)</i>	<i>April 2008</i>	<i>May 2008</i>
<i>Jan2008-Jan2007</i>	28.98	66.55	<i>Maximum</i>	382.60	355.30
<i>May2008-Jan 2008</i>	19.94	66.15	<i>Most Frequent</i>	389-390	375

Fuel surcharge seen increased to 45% above standard freight rate. Energy Surcharge Zero.

The commodities that we track remain high, up almost 20% since January.

Copper prices will this year average 15 percent higher than in 2007 on mine disruptions and delays to new projects, according to London-based researcher CRU, reported by Bloomberg.

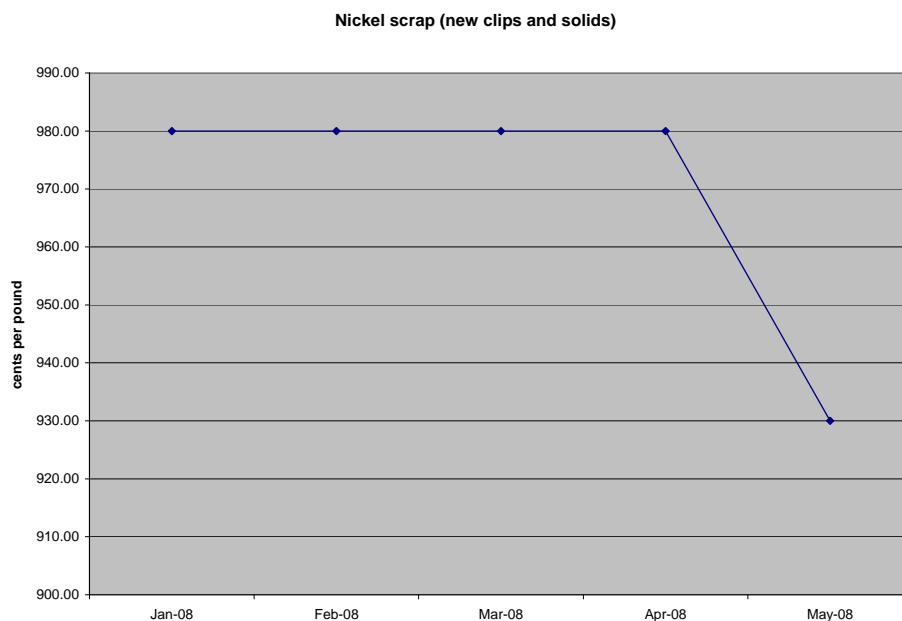
Lagging mine production, increased smelting and refining capacity and growth in the BRIC's (Brazil, Russia, India and China) are primary reasons for the expected half million tonne deficit. The shortfall is expected to persist through 2012, according to the report.

BRIC nations account for 35 percent of world usage.

<http://www.bloomberg.com/apps/news?pid=20601012&sid=atMPv9vdTea8&refer=commodities>

Average price in 2007: \$3.39 per pound.

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



<i>Interval</i>	<i>% Change</i>	<i>\$ Change</i>	<i>Commodity Price (cents/lb)</i>	<i>April 2008</i>	<i>May 2008</i>
<i>Jan2008-Jan2007</i>	-49.09	-270.00	<i>Maximum</i>	970	830
<i>May 2008-Jan 2008</i>	-5.10	-50.00	<i>Most Frequent</i>	975	980

**The average price of nickel in 2007 was up 117% over the average in 2005.
The Nickel commodity we track is down 31% YTY.**

Nickel prices declined steadily throughout May based on weakening demand for stainless Steel in China, where overstocks are present, and factory shut downs associated with the Olympic games are presumed factors.

In North America, consumers are delaying purchases on expectations of declining surcharges based on the falling prices.

Average price in 2007: \$12.01 per 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-* April \$1.40 last posted on website. These are calculated on a two month lag.

Stainless Steel

David Harquist comments on the impact of China in the Stainless Steel Market:

Link: <http://tinyurl.com/6fpoyd>

Stainless imports decreased 5.11% resulting from mixed increases and decreases in individual stainless products.

Link: http://ia.ita.doc.gov/steel/license/news/monthly_SIMA_factsheet.pdf

No, there is NOT any Hexavalent Chromium in Stainless Steels:

http://www.ssina.com/news/releases/pdf_releases/02_22_06.pdf

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

Steel Bundles Price up 109% YTY; up 69% From January 2008

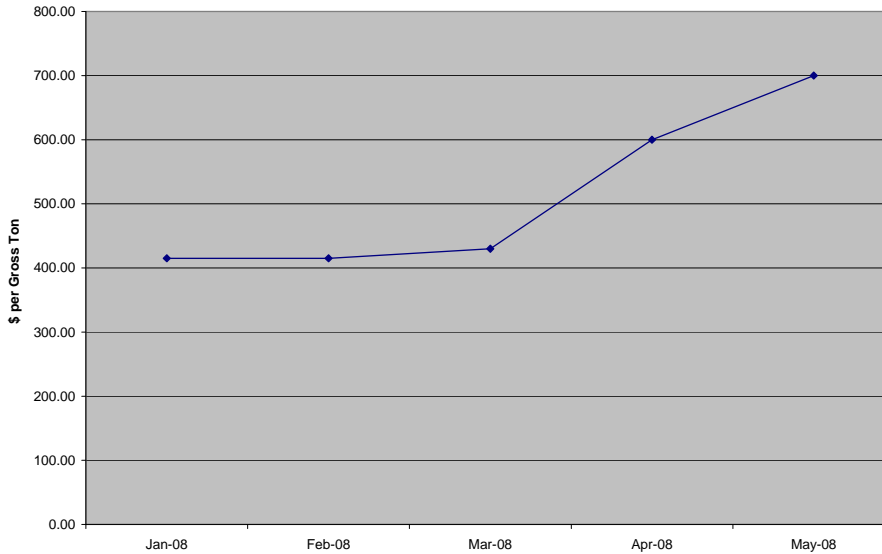
How to communicate this to your customers:

"We continue to execute strategies designed to improve efficiencies and reduce operating costs, but it is essential that we implement price increases to recover these cost increases and sustain our viability as a valued supplier to our customers and their industries." -

James L. Hambrick, chairman, president and CEO, Lubrizol.

<http://www.industryweek.com/ReadArticle.aspx?ArticleID=16493>

Steel Scrap (#1 Bundles)



<i>Interval</i>	<i>% Change</i>	<i>\$ Change</i>	<i>Commodity Price (\$/gr.ton)</i>	<i>April 2008</i>	<i>May 2008</i>
<i>Jan2008-Jan2007</i>	55.36	155.00	<i>Maximum</i>	430	600
<i>May2008-Jan 2008</i>	68.67	285	<i>Most Frequent</i>	600	700

Surcharges: June 2008 Material Surcharges for Cold Finished Bars: \$28.75; additional alloy surcharges applicable: 8620 \$14.35 cwt.; 4140-4142: \$ 9.23 cwt. Fuel surcharge: 43%.

The World Has Changed:

Nucor Announces a \$2 Billion Dollar Ironmaking Plant in Louisiana.

3,000,000 tons of pig iron production using energy efficient blast furnaces and heat recovery coke plants. We would anticipate a BOF, Nucor’s first...

This company has grown from a disruptor in its early years stealing market share from the major US integrated steel companies to this announcement, when it, for all intents and purposes, declares that “it is one.” For Nucor to change its business model so completely, indicates that it has determined that the world for its products has changed. About \$2 billion worth of change, for starters.

<http://www.nucor.com/indexinner.aspx?finpage=newsreleases>

Production, Shipments, Inventories

The American Iron and Steel Institute (AISI) reported today that for the month of March 2008, U.S. steel mills shipped 9,158,000 net tons, a 1.9 percent decrease from the 9,331,000 net tons shipped in March 2007 and a 0.2 percent decrease from the 9,174,000 net tons shipped in the previous month, February 2008.

A year-to-year comparison of year-to-date shipments shows the following changes within major market classifications: service centers and distributors, up 4.1 percent; automotive, down 1.2 percent; construction and contractors' products, down 1.2 percent; and oil and gas, up 8.8 percent.

In the week ending June 7, 2008, domestic raw steel production was 2,134,000 net tons while the capability utilization rate was 89.4 percent. Production was 2,119,000 tons in the week ending June 7, 2007, while the capability utilization then was 88.6 percent. The current week production represents a 0.7 percent decrease from the same period in the previous year. Production for the week ending June 7, 2008 is up 0.9 percent from the previous week ending May 31, 2008 when production was 2,114,000 tons and the rate of capability utilization was 88.6 percent.

Adjusted year-to-date production through June 7, 2008 was 48,124,000 tons, at a capability utilization rate of 88.8 percent. That is a 2.9 percent increase from the 46,760,000 tons during the same period last year, when the capability utilization rate was 85.7 percent.

Source: www.steel.org

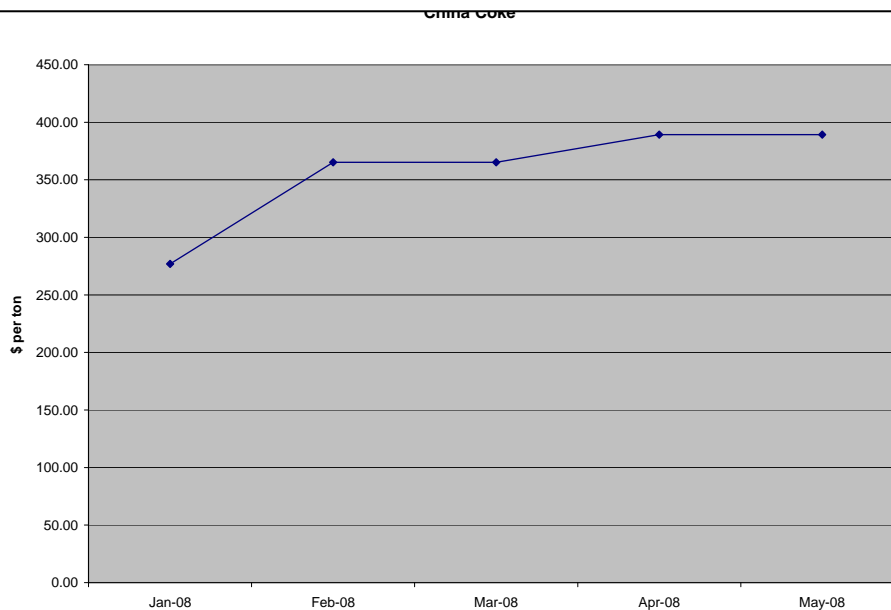
Steel shipments were down from year-earlier levels just 2.7% in the United States and 2.3% in Canada, while Canadian aluminum shipments dropped a modest 1.3%. Only the 5.9% decline in U.S. aluminum shipments suggested larger economic weakness, yet that number, following the 13.4% year-over-year decline in U.S. aluminum shipments in December, was also relatively small.

Shipments of steel products from U.S. service centers rose 3.3% in April, to 4.65 million tons, compared with April 2007. For the year to date, shipments of 17.7 million tons were down 2.8% from volume during the first four months of 2007. Month-end inventories of 12.4 million tons were 15.1% lower than April 2007 stockpiles and, at current shipping rates, represented a 2.7-month supply.

Steel product shipments from Canadian metals service centers totaled 328,400 tons, a 6.6% increase from shipments in April 2007. Steel shipments for the first four months of 2008 totaled 1.28 million tons, a decline of 0.7% from the same period a year ago. Steel inventories held by Canadian service centers at the end of April totaled almost 1.1 million tons, or 15.2% below year-earlier levels and, at current shipping rates, equal to a 3.3-month supply. Source: www.MSCI.org

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 2006 was down 32.1% over the average in 2005. What goes down, can go up! The current YTY % change of coke is up 105% in May.

Coke in China is on a tear due to tight supplies of good quality metallurgical (coking) coal. Coking coal prices are up 60-70% since January. Reports that China has shut down about 1% of its electrical generating capacity due to coal shortages mean this will get worse before it gets better, as transportation will be prioritized for steam coal rather than coking coal.

We have seen a report that had Chinese coke for export over \$600 FOB. At the same time, thousands of small- and medium-size coke plants were closed down in a bid to save energy and reduce emissions, which may lead to a reduction in output capacity, said a market analyst.

While we are seeing a number of conflicting prices for export coke out of China, all signs are pointing to higher steel prices down the road as a result of coke's current record pricing.

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

David Harquist comments on the affect of China in the Stainless Steel Market really complete analysis!

Link: <http://tinyurl.com/6fpoyd>

Currency: Still no substantive action on the revaluation of the Yuan.

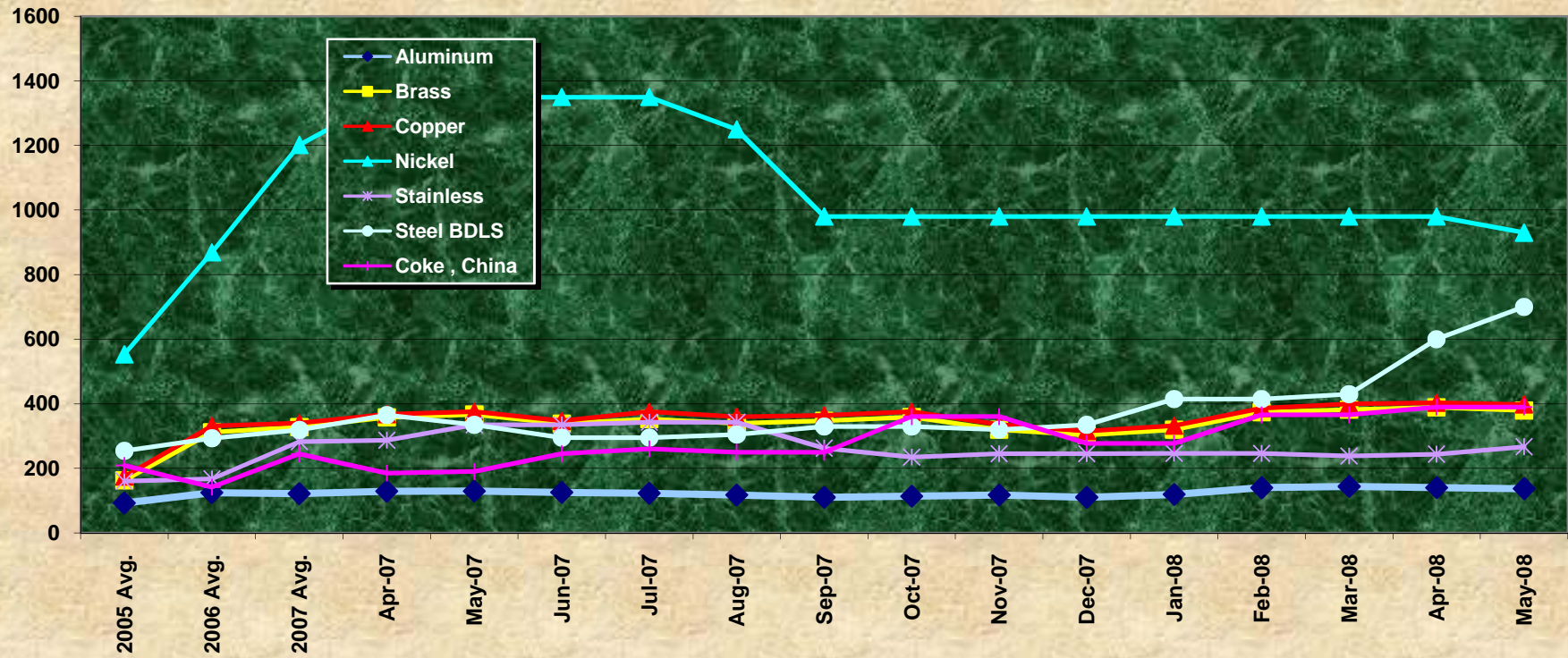
Please see the Analysis of Foreign Currencies prepared by Georgetown Economic Services posted along with this report.

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?***

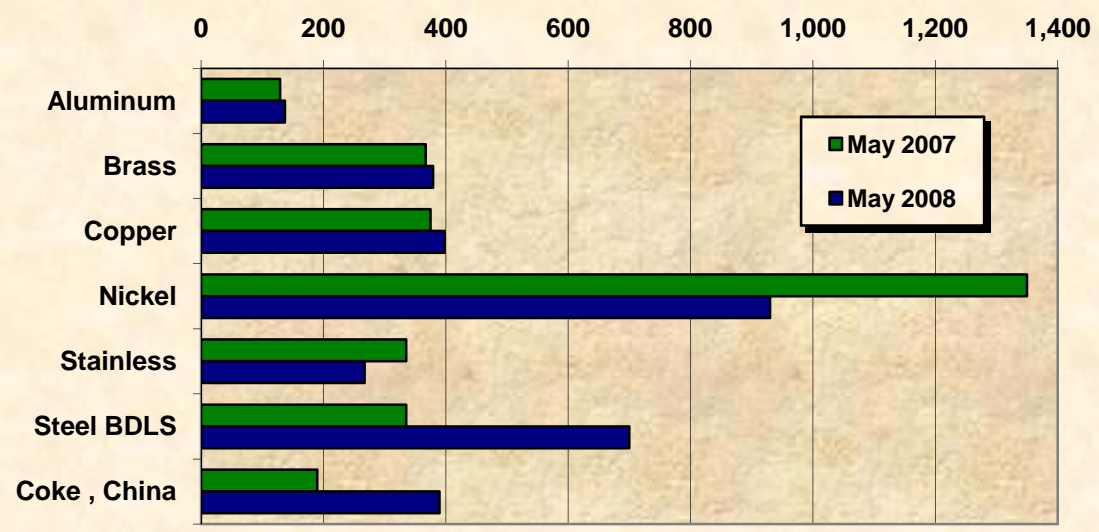
-Miles Free

Director, Industry Research and Technology
Precision Machined Products Association

PMPA RAW MATERIAL PRICE TRENDS



Year Over Year Raw Material Price Comparison



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.	121.49	328.17	339.86	1201.67	282.65	319.17	244.75
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	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
Jan08- Jan 07 \$Change	-9.50	54.00	66.55	-270.00	3.06	155.00	92.00
Jan08-Jan07 %Change	-7.39	20.30	25.10	-21.60	1.26	59.62	49.73
Jan08- May08 \$Change	18.00	59.00	66.15	-50.00	21.04	285.00	112.40
Jan08-May08 %Change	15.13	18.44	19.94	-5.10	8.55	68.67	40.58
2005 Average	92.19	162.75	174.23	553.33	160.50	254.58	208.75
2006 Average	124.62	311.58	331.19	869.17	167.50	293.25	141.75
2007 Average	121.49	328.17	339.86	1201.67	282.65	319.17	244.75
2008 YTD Average	135.90	368.80	383.53	970.00	248.39	512.00	357.28
YTY%Change	6.00	3.27	6.08	-31.11	-20.27	108.96	104.95

Table A

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 Bdls, #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.***

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	230.00
	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
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

Table A Supplemental Calculations