

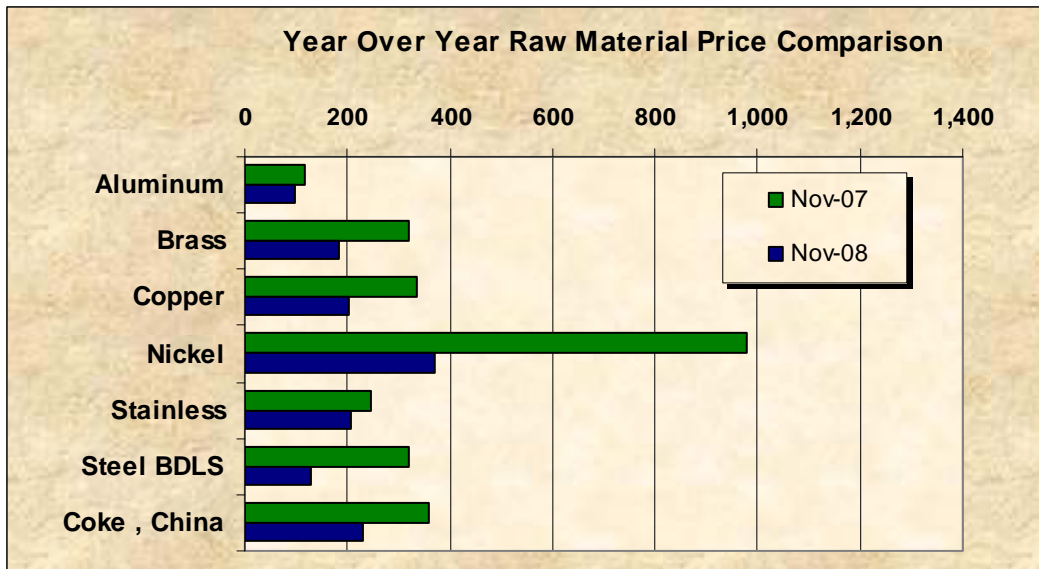


# Material Impacts On The Precision Machining Industry

December 2008

*Global Economic Downturn Dramatically Falling Prices.*

### Executive Summary



**Quick Summary:** *The prices of all of the raw materials that we track are well below last year's levels, and volatile. Producers are in a race all over the world to idle capacity to prevent excessive supply from further damaging their margins.*

*Aluminum is down 19% from January; down 36% from its peak in July; and down 17.5% from November 2007.*

*Copper is down 39% since January, down 51% since its peak in July, and down 40% since November 2007.*

*Nickel is down 62% since January, down 62 % since its peak, and since last November.*

*The steel scrap commodity that we track is highly volatile down 69% since January, 85% off its peak in 2008, and off 60% off its price same month last year.*

*China coke is down 16% from January, 73% off its peak this year, and 35% off its price last November.*

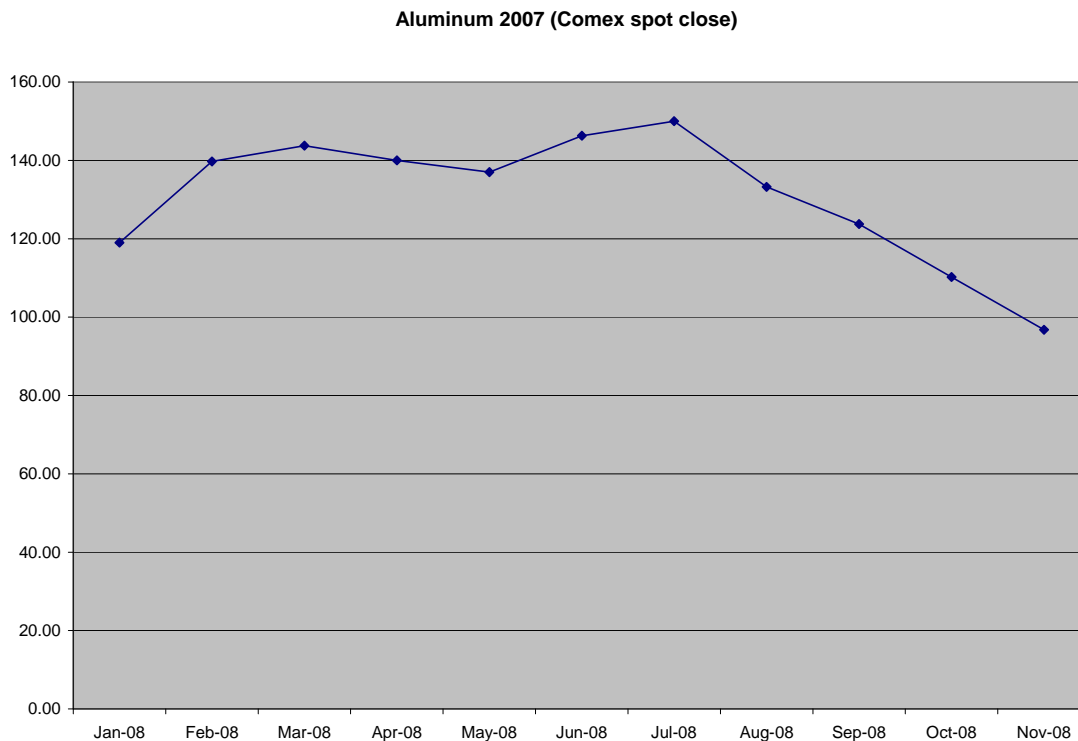
*Typically these commodities' prices are the same for consecutive trading days, weeks, sometimes even months, allowing for an easy determination of the most frequent price. Not so this month.*

*Low production volumes have also made sales of scrap problematic, with several shops reporting difficulties getting loads of scrap moved out. Reports of scrap dealers filing for bankruptcy protection have been heard.*

*The North American price of most metals continues to be driven by global demand and events rather than local supply and demand.*

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

**Aluminum** (cents per pound Comex Spot close)



***Aluminum is down 19% from January; down 36% from its peak in July; and down 17.5% from November 2007.***

<i>Interval</i>	<i>% Change</i>	<i>\$ Change</i>	<i>Commodity Price ( cents/lb)</i>	<i>Oct 2008</i>	<i>Nov 2008</i>
<i>Jan2008- Jan2007</i>	<b>-8.23</b>	<b>- 9.50</b>	<i>Maximum</i>	<b>110.25</b>	<b>96.75</b>
<i>Nov2008- Jan 2008</i>	<b>-18.70</b>	<b>-22.25</b>	<i>Most Frequent</i>	<b>101-102</b>	<b>87-88</b>

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

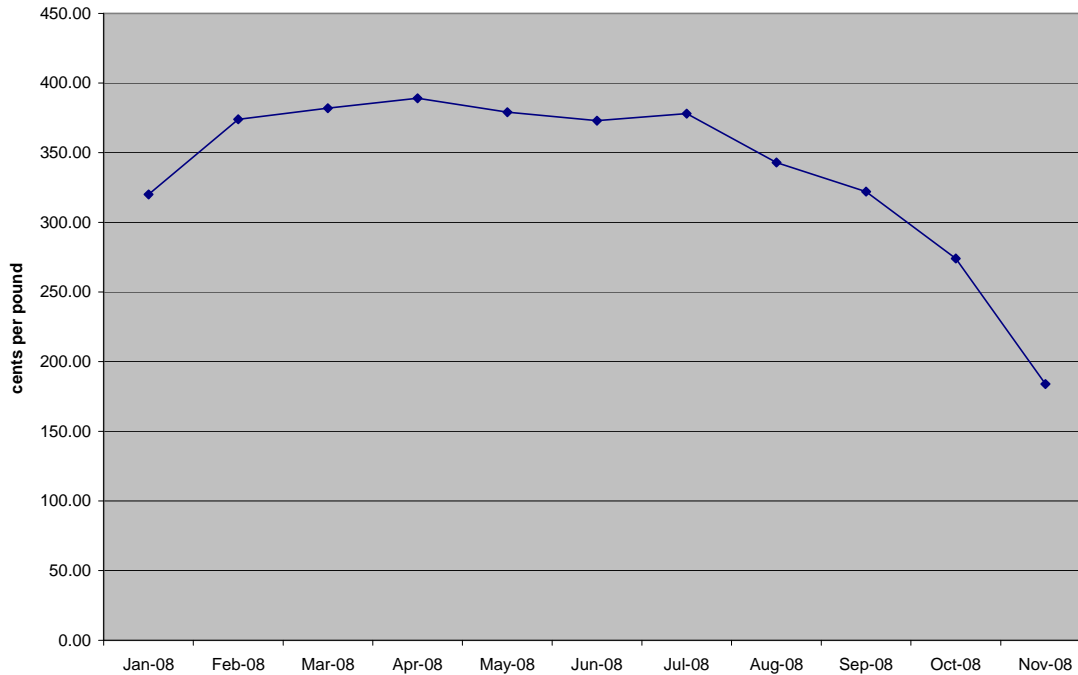
*According to the Metal Service Center Institute October shipments of aluminum products from U.S. metals service centers totaled 144,700 tons, a decline of 11.9% from the year-earlier month. U.S. aluminum shipments for the first 10 months of the year total nearly 1.5 million tons, or a decline of 6.3% from 2007 totals. At current shipping rates, end-of-October inventories of 433,900 tons of aluminum, up 0.9% from a year ago, were equal to a 3.0-month supply. In Canada, metals service center shipped 14,400 tons of aluminum products in October, down 3.8% from a year ago. Shipments for the first 10 months of the year of 143,200 tons are down 1.9% from the 2007 period. Month-end inventories of 36,400 tons were 11.6% lower than at the end of October last year and, at current shipping rates, equal to a 2.5-month supply.*

*Source: <http://www.ssci.org/news/details.aspx?ArticleID=132>*

**(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*)

**Brass (copper brass mill #1 scrap)**



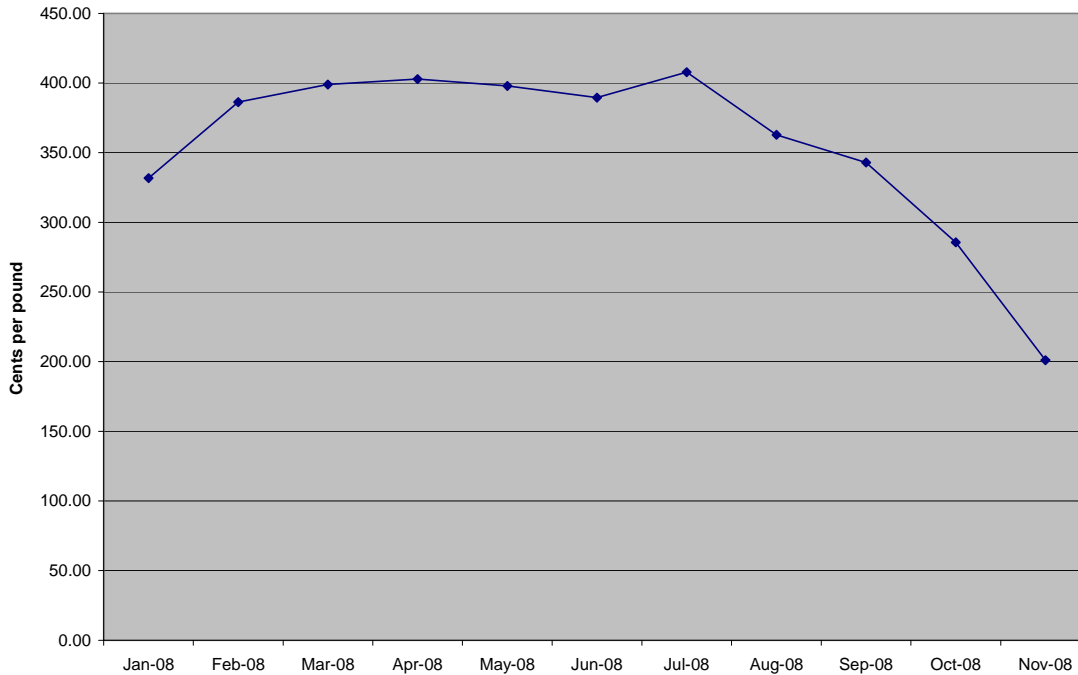
*Brass is down 43% since January, down 53% since its peak in July, and down 43% since November 2007.*

<i>Interval</i>	<i>% Change</i>	<i>\$ Change</i>	<i>Commodity Price (cents/lb)</i>	<i>Oct 2008</i>	<i>Nov 2008</i>
<i>Jan2008-Jan2007</i>	<b>24.43</b>	<b>54.00</b>	<i>Maximum</i>	<b>274</b>	<b>184</b>
<i>Nov2008-Jan 2008</i>	<b>-42.50</b>	<b>- 136.00</b>	<i>Most Frequent</i>	<b>NA</b>	<b>151-152</b>

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

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

Copper (comex High grade cathode spot close)



*Copper is down 39% since January, down 51% since its peak in July, and down 40% since November 2007.*

Interval	% Change	\$ Change	Commodity Price (cents/lb)	Oct 2008	Nov 2008
Jan2008-Jan2007	<b>28.98</b>	<b>66.55</b>	Maximum	<b>285.70</b>	<b>201.10</b>
Nov2008-Jan 2008	<b>-39.37</b>	<b>-130.60</b>	Most Frequent	<b>190-191</b>	<b>171-172</b>

*The published metal selling price decreased 15 cents per pound to \$2.51 per pound with shipments November 14, 2008. The published scrap price decreased 16 cents per pound to \$2.33 per pound. The Freight Fuel surcharge decreased to 30% over the standard freight rate. Energy Surcharge remains Zero.*

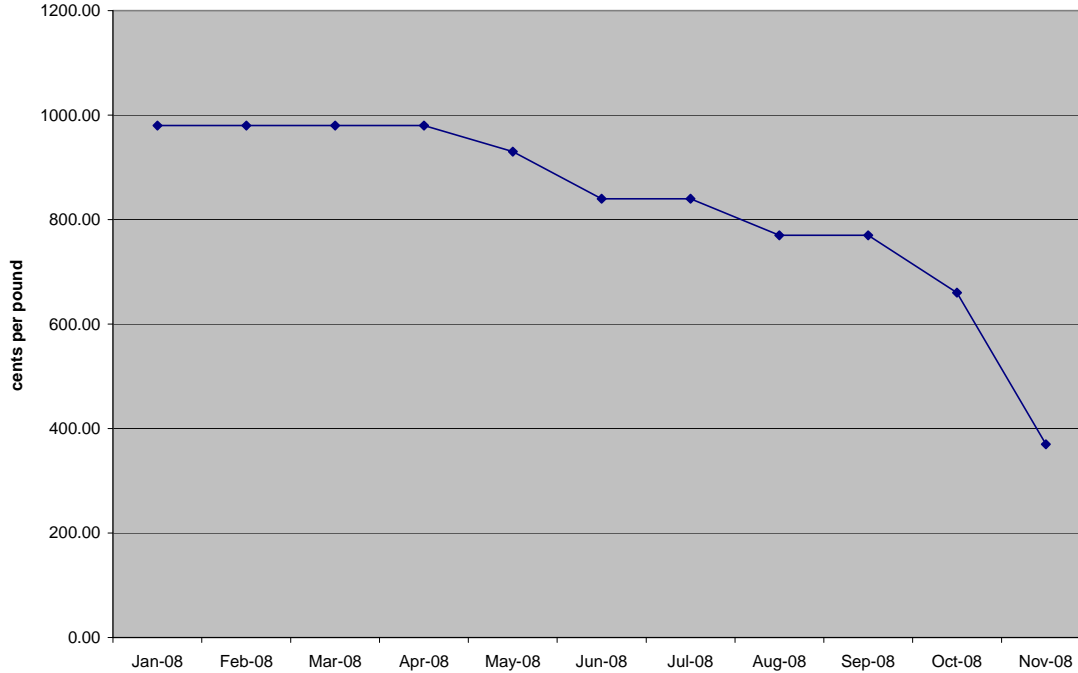
**Average price in 2007: \$3.39 per pound.**

**Copper moves in close correlation to the overall economy- it is said that “the red metal has a Ph.D. in Economics.”**

**One look at the graph above tells you that is correct...**

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

**Nickel scrap (new clips and solids)**



*Nickel is down 62% since January, down 62 % since its peak, and since last November.*

<i>Interval</i>	<i>% Change</i>	<i>\$ Change</i>	<i>Commodity Price (cents/lb)</i>	<i>Oct 2008</i>	<i>Nov 2008</i>
<i>Jan2008-Jan2007</i>	<b>-49.09</b>	<b>-270.00</b>	<i>Maximum</i>	<b>660</b>	<b>370</b>
<i>Nov2008-Jan 2008</i>	<b>-62.24</b>	<b>-610.00</b>	<i>Most Frequent</i>	<b>550</b>	<b>300</b>

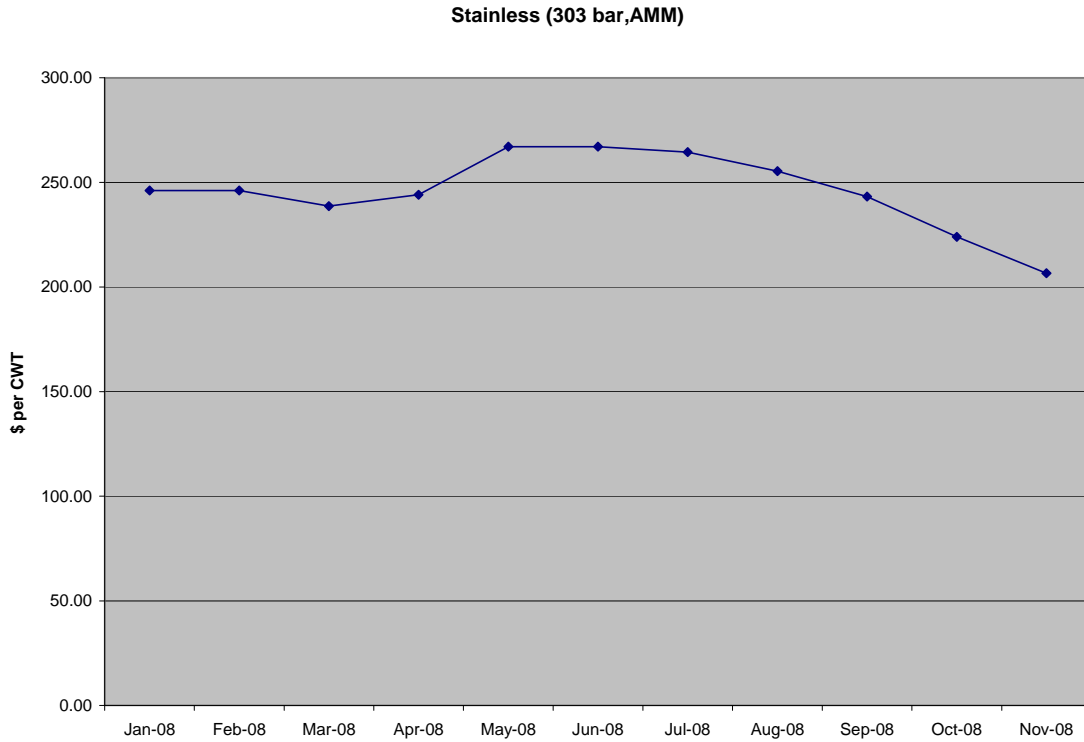
*A surplus of Nickel metal availability was reported by the International Nickel Study Group for July. The world has been Nickel short for some time, and the reported surplus of metal explains the drop in price of the commodity we track.*

**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- December 2008-* \$0.64 last posted on website. These are calculated on a two month lag. Surcharges for October and November were \$1.24 and \$1.07 respectively.



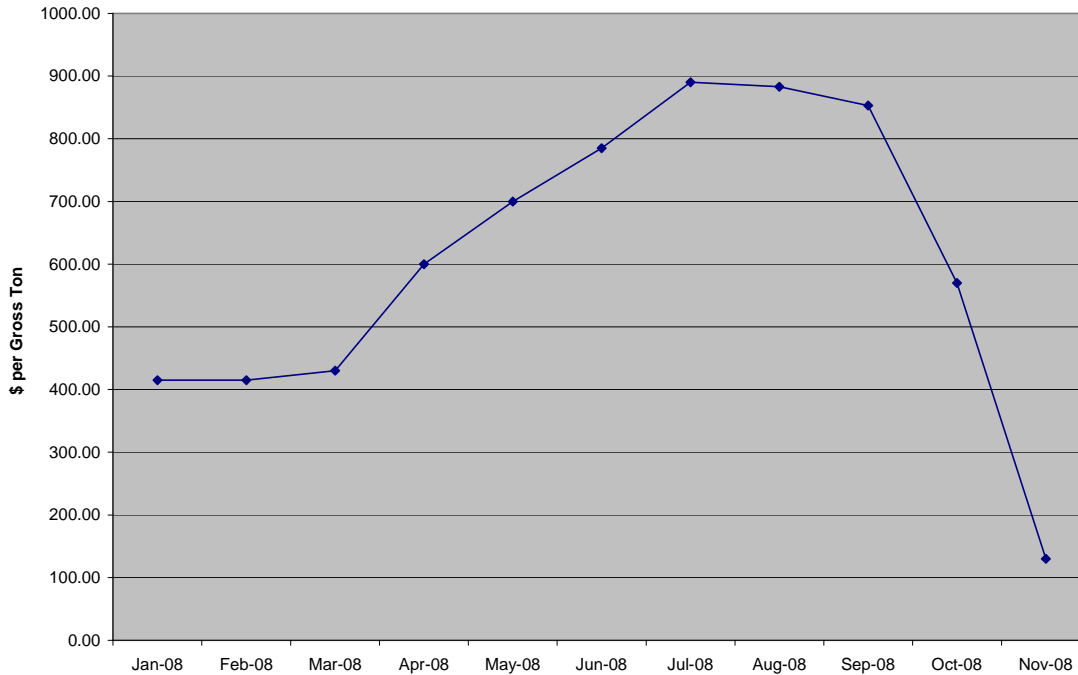
**We do not have a lot of confidence in this chart, but we present it for comparison to your experience in the market. Prices reported by AMM.**

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

[http://www.ssina.com/news/releases/pdf\\_releases/02\\_22\\_06.pdf](http://www.ssina.com/news/releases/pdf_releases/02_22_06.pdf)

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

**Steel Scrap (#1 Busheling)**



**Steel scrap commodity that we track is highly volatile down 69% since January, 85% off its peak in 2008, and off 60% off its price same month last year.**

Interval	% Change	\$ Change	Commodity Price (\$/gr.ton)	Oct 2008	Nov 2008
Jan2008-Jan2007	<b>55.36</b>	<b>155.00</b>	Maximum	<b>570</b>	<b>130</b>
Nov2008-Jan 2008	<b>-68.67</b>	<b>-285.00</b>	Most Frequent	<b>215</b>	<b>125</b>

*Surcharges: December 2008 Material Surcharges for Cold Finished Bars (per CWT): \$ 1.16 (includes manganese); No energy surcharge; Fuel Surcharge 33%; no additional alloy surcharges applicable.*

The US scrap industry has been hard hit by the economic crisis. A typical ton of scrap metal that sold for almost \$900 this summer was worth as low as \$130 in the past month. Member companies are reporting some difficulty in getting scrap moved out, and insultingly low prices. (These materials were purchased at the highest price and scrap is now being reimbursed at the market low...)

According to the latest Metals Activity Report from US-based Metals Service Center Institute, shipments of steel products from US and Canadian metals service centers continued to decline in October 2008.

*Steel product shipments from U.S. metals service centers totaled 3.6 million tons, about 22.8% below October 2007 shipments. Shipments for the first 10 months of the year, of 41.7 million tons, were 7.3% below volume for the year-ago period. At the end of October, U.S. service center steel inventories totaled about 10 million tons, 4.3% below year-earlier totals and, at current shipping rates, equal to a 2.8-month supply.*

*Steel shipments from Canadian service centers totaled 549,100 tons in October, down 17.9% from a year ago. Shipments for the first 10 months of the year of 5.9 million tons were 7.6% below volume for the same period in 2007. Canadian steel inventories at the end of October totaled nearly 1.4 million tons, or 17.9% less than the same month a year ago. At current shipping rates, Canadian steel inventories were equal to a 2.5-month supply of the metal.*

Source : <http://www.ssci.org/news/details.aspx?ArticleID=132>

### ***Steel Jobs Could Go Away:***

We are involved in some rulemaking in California regarding VOC's in metalworking fluids. That issue pales when compared to what steelmakers face under upcoming CO2 limiting schemes. The CEO of Corus steel is reported as saying that he will move all steelmaking operations out of Europe to China because of Carbon Emissions regulations unless they are changed or the company is given credits for new technology:

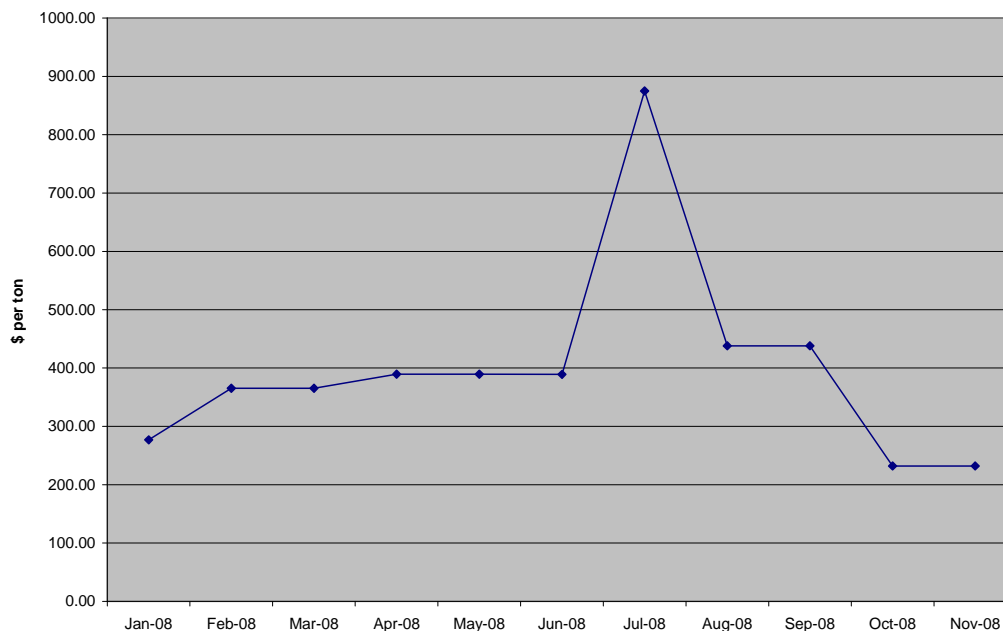
"If we are forced to buy CO2 credits on the market without a system to improve our production process, then we will not produce steel in Europe. To cut carbon emissions of steel production, we need breakthrough technology, but this is extremely expensive, costing EUR 200 million to EUR 300 million to upgrade a one million ton production plant."

Could this happen here in North America? If the steel mills continue to shut down for market reasons, and global warming trumps economic sensibility in Washington, the departure of these steel jobs could be permanent. And make the idea of manufacturing in North America irrelevant. Watch for CO2 regulations to understand the path of manufacturing in the new administration.

Reporting notice: *The benchmark commodity that we follow, #1 Steel Bundles, Chicago, is no longer tracked due to changes in the way the automakers sell their stamping scrap. Effective with June 2008 data, we are reporting the AMM #1 Busheling, composite price (Chicago, Cleveland, and Pittsburgh) as our indicator for the price of steel scrap. This indicator has tracked essentially the same as #1 bundles over the last two years.*

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

## China Coke (Chinese) (\$ per metric tonne) and China Developments



***China coke is down 16% from January, 73% off its peak this year, and 35% off its price last November.***

Statistics show that China exports of coke in September and October and in October has slid 30% or 9.3 million tonnes to 220 million tonnes from the peak June.

The China Coking Industry Association has suggested that the 10% export tax be decreased from 40% to 30% and ease money policy further. It is noteworthy that China's domestic major mills are rushing to cut output amid depressed global market, driving steel market to softness at home.

**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.)

### ***Chinese steel industry facing cost crisis***

A senior adviser to the China Iron and Steel Association said that China's steel industry faces a cost crisis as dropping demand for steel drives prices below the cost of raw materials. (Iron ore price was contracted for the year.)

"Chinese steel mills are facing a cost crisis. Almost all Chinese mills are suffering losses on the basis of current steel prices and long-term iron ore prices this year."

Chinese buyers are hoping to wring significant cost reductions from the Iron Ore suppliers in the upcoming negotiations.

Because of the scale of its demand, China sets the global price for raw material prices used in steelmaking.

From Jon Nadler, Senior Analyst with Kitco in Montreal:

*“By far and away the biggest question mark remains China. Ugly reports are now appearing almost daily on the accelerating collapse of the country's manufacturing industry. Increasing stories of violence from disgruntled factory workers owed back pay or simply finding that they are locked out upon arrival at work as seizures become a daily occurrence. Since the beginning of this year 3,000 factories have gone out of business and having flooded into the cities for two decades, China's peasant farmers are now heading back to their villages, back to a life on the land.*

*Several hundred thousand workers already with no jobs, have found that city life has quickly lost its allure. The phenomenon is clearly worrying China's government. The country's premier, Wen Jiabao, recently said that the impact of the financial crisis in China was "worse than expected". His government has launched a \$562bn stimulus package, much of which will be spent on infrastructure projects like ports and roads - aimed at boosting domestic consumption as export demand falls off. Any government fears large numbers of people moving around.*

*In the case of China you have many tens of millions that have come off the land in west and central China and moved to the coast, and they're forced to go back. That inevitably means dislocation. Dislocation breeds instability. In our view this factor alone will mean that the country's leadership will do whatever it takes to stop the rot. But for now prices in the base metals will continue to bob around like a cork in a bath.” ( <http://tinyurl.com/6mrbmn>)*

### ***Chinese steel imports***

Imports of Chinese finished steel products in October reached 713,000 net tons, an all time monthly high.

The president of the Steel Manufacturers Association, Mr. Tom Danjczek said, “US imports of Chinese steel have jumped over the last 3 months. After peaking at about 500,000 tons per month during 2007, Chinese shipments to the US had dropped to about 200,000 tons early this year before rising in recent months. US steel imports from China now are averaging 600,000 tons per month, twice the monthly average last year.”

Mr. Danjczek said that China deliberately avoided production cuts even as its domestic demand dropped, shipping its excess production to the United States, and depressing US prices. He added that 19 of the top 20 Chinese steel companies are government owned, and that the sector is heavily subsidized.

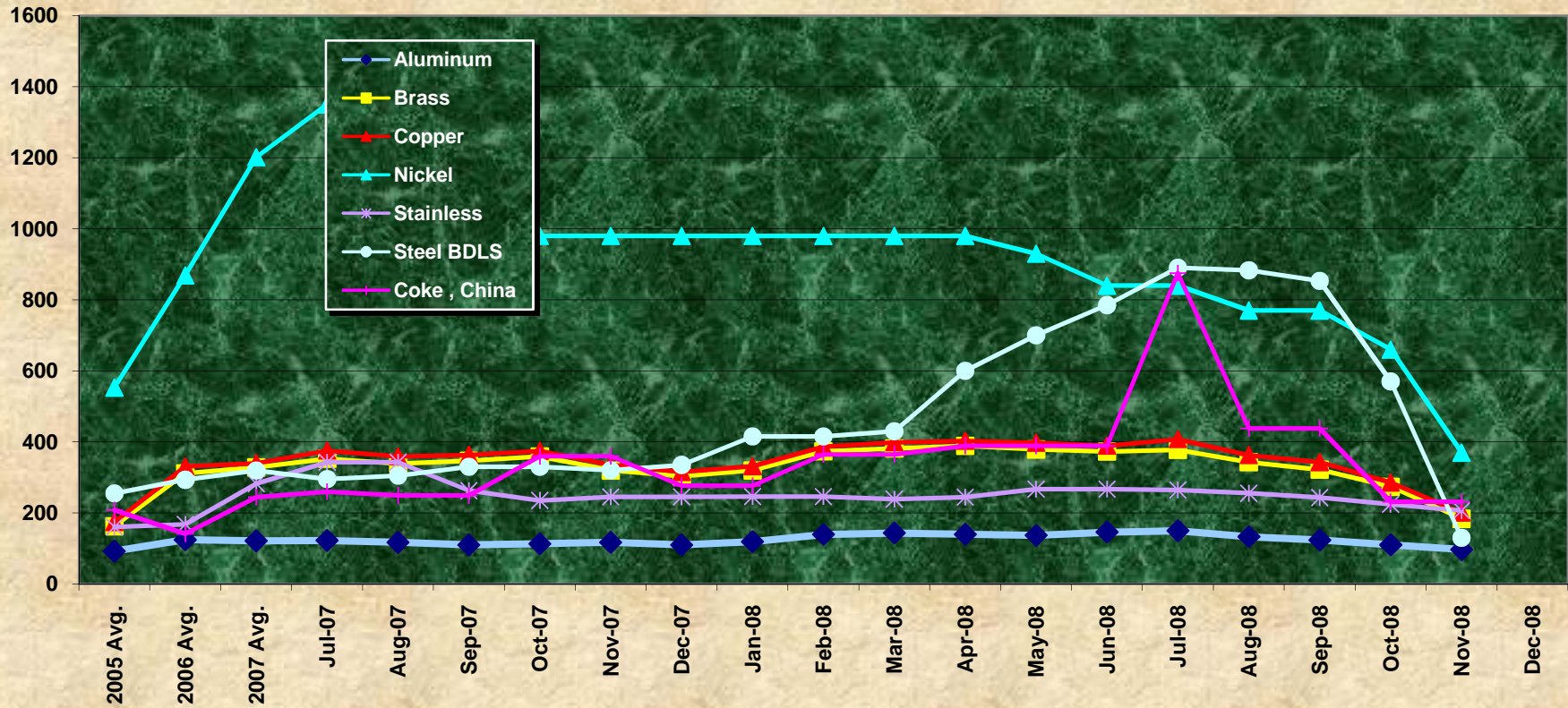
**Currency:** Still no substantive action on the revaluation of the Yuan.

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

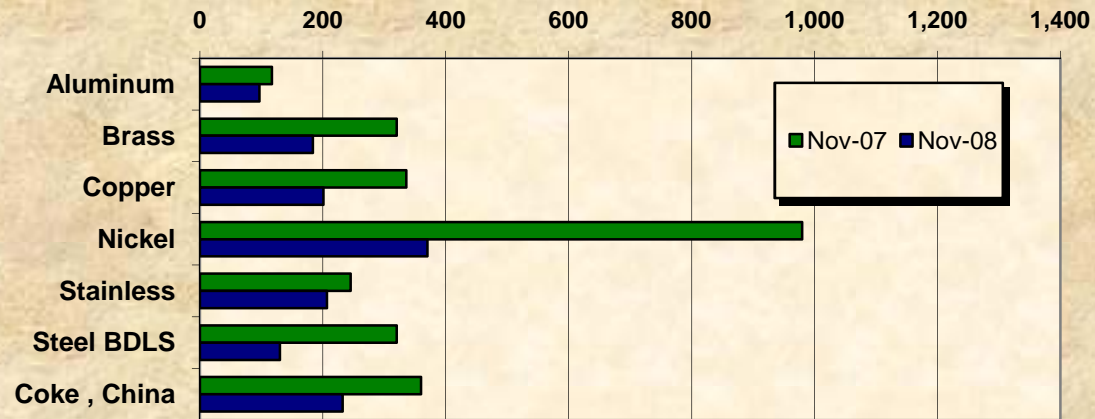
***-Miles Free***

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
<b>2005 Avg.</b>	92.19	162.75	174.23	553.33	160.50	254.58	208.75
<b>2006 Avg.</b>	124.62	311.58	331.19	869.17	167.50	293.25	141.75
<b>2007 Avg.</b>	121.49	328.17	339.86	1201.67	282.65	319.17	244.75
<b>Jul-07</b>	122.65	353.00	375.40	1350.00	342.80	295.00	260.00
<b>Aug-07</b>	117.30	339.00	359.50	1250.00	342.80	305.00	250.00
<b>Sep-07</b>	110.00	347.00	363.60	980.00	262.63	330.00	250.00
<b>Oct-07</b>	113.25	359.00	374.95	980.00	235.04	330.00	360.00
<b>Nov-07</b>	117.25	320.00	335.60	980.00	245.25	320.00	360.00
<b>Dec-07</b>	110.00	303.00	315.50	980.00	245.25	335.00	277.00
<b>Jan-08</b>	119.00	320.00	331.70	980.00	246.06	415.00	277.00
<b>Feb-08</b>	139.75	374.00	386.35	980.00	246.06	415.00	365.30
<b>Mar-08</b>	143.75	382.00	398.95	980.00	238.62	430.00	365.30
<b>Apr-08</b>	140.00	389.00	402.80	980.00	244.09	600.00	389.40
<b>May-08</b>	137.00	379.00	397.85	930.00	267.10	700.00	389.40
<b>Jun-08</b>	146.30	373.00	389.55	840.00	267.10	785.00	389.00
<b>Jul-08</b>	150.00	378.00	407.75	840.00	264.47	890.00	875.00
<b>Aug-08</b>	133.25	343.00	362.85	770.00	255.35	883.00	438.07
<b>Sep-08</b>	123.75	322.00	342.95	770.00	243.21	853.00	438.07
<b>Oct-08</b>	110.25	274.00	285.70	660.00	223.94	570.00	232
<b>Nov-08</b>	96.75	184.00	201.10	370.00	206.58	130.00	232
<b>Dec-08</b>							
Jan08- Jan 07 <b>\$Change</b>	<b>-9.50</b>	<b>54.00</b>	<b>66.55</b>	<b>-270.00</b>	<b>3.06</b>	<b>155.00</b>	<b>92.00</b>
Jan08-Jan07 <b>%Change</b>	<b>-7.39</b>	<b>20.30</b>	<b>25.10</b>	<b>-21.60</b>	<b>1.26</b>	<b>59.62</b>	<b>49.73</b>
Jan08- Nov08 <b>\$Change</b>	<b>-22.25</b>	<b>-136.00</b>	<b>-130.60</b>	<b>-610.00</b>	<b>-39.48</b>	<b>-285.00</b>	<b>-45.00</b>
Jan08-Nov08 <b>%Change</b>	<b>-18.70</b>	<b>-42.50</b>	<b>-39.37</b>	<b>-62.24</b>	<b>-16.04</b>	<b>-68.67</b>	<b>-16.25</b>
2005 Average	<b>92.19</b>	<b>162.75</b>	<b>174.23</b>	<b>553.33</b>	<b>160.50</b>	<b>254.58</b>	<b>208.75</b>
2006 Average	<b>124.62</b>	<b>311.58</b>	<b>331.19</b>	<b>869.17</b>	<b>167.50</b>	<b>293.25</b>	<b>141.75</b>
2007 Average	<b>121.49</b>	<b>328.17</b>	<b>339.86</b>	<b>1201.67</b>	<b>282.65</b>	<b>319.17</b>	<b>244.75</b>
2008 YTD Average	<b>130.89</b>	<b>338.00</b>	<b>355.23</b>	<b>827.27</b>	<b>245.69</b>	<b>606.45</b>	<b>399.14</b>

Table A

## PMPA Raw Materials Index

<b>YTY%Change</b>	<b>12.50</b>	<b>-7.20</b>	<b>-5.68</b>	<b>-21.43</b>	<b>-7.39</b>	<b>158.48</b>	<b>75.23</b>
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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.***

***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
<b>2003</b>	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	
<b>3rd Qtr.</b>	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	
<b>4th Qtr.</b>	71.33	92.67	93.54	410.63	104.44	146.59	
<b>2004</b>	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
<b>1st Qtr.</b>	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
<b>2nd Qtr.</b>	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
<b>3rd Qtr.</b>	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
<b>4th Qtr.</b>	91.67	142.33	146.98	533.33	157.00	425.00	252.67
<b>2005</b>	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
<b>1st Qtr.</b>	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
<b>2nd Qtr.</b>	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
<b>3rd Qtr.</b>	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
<b>4th Qtr.</b>	99.52	194.00	214.27	500.00	166.00	266.67	155.00
<b>2005 Average</b>	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
<b>2006</b>	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
<b>1st Qtr.</b>	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
<b>2nd Qtr.</b>	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
<b>3rd Qtr.</b>	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
<b>4th Qtr.</b>	128.07	316.50	338.00	1083.33	244.33	250.00	159.67
<b>2006 Average</b>	124.62	311.58	331.19	869.17	167.50	293.25	141.75
<b>2007</b>	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
<b>1st Qtr.</b>	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
<b>2nd Qtr.</b>	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
<b>3rd Qtr.</b>	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
<b>4th Qtr.</b>	113.50	327.33	342.02	980.00	241.85	328.33	332.33
<b>2007 Average</b>	121.49	328.17	339.86	1201.67	282.65	319.17	244.75
<b>2008</b>	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
<b>1st Qtr.</b>	134.17	358.67	372.33	980.00	243.58	420.00	335.87

Table A Supplemental Calculations

**Quarterly Averages  
PMPA Material Impacts**

	<b>Aluminum</b>	<b>Brass</b>	<b>Copper</b>	<b>Nickel</b>	<b>Stainless</b>	<b>Steel BDLS</b>	<b>Coke , China</b>
	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
<b>2nd Qtr.</b>	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
<b>3rd Qtr.</b>	135.67	347.67	371.18	793.33	254.34	875.33	583.71