

## ***Guidelines for Making Informed Stainless and High Temperature Alloy Purchases***

Metals and Alloys that contain the element Nickel present a real challenge for today's buyer. The volatility of element pricing creates large and rapid fluctuations in pricing – therefore the decision to make or delay a metal purchase can have significant impact on finished product costs. A few simple tips can help savvy buyers and purchasing agents better time purchases to achieve the best pricing.

**Follow the Market** –One of the first steps in becoming an educated buyer is following market pricing. Nickel is traded on the London Metal Market Exchange. Daily Nickel/Stainless Steel market details can be found on line with a few clicks of your mouse. You can review Dow Jones trading reports as well as metals charts and Nickel forecasts from the experts. The information shared on pricing and stock levels will allow you to develop a feel for market fluctuations. Understanding market peaks and troughs will allow you to time your buys to achieve the most favorable price.

**Understand the Formula** – The price of a given grade of metal corresponds directly to the market price of the elements used in its production. Understanding the elements that compose a certain grade of steel is an important part of understanding its pricing. Pricing from steel mills should correlate closely with the price of iron ore. Along with Iron and Chromium, Nickel is an element used in the production of many stainless steels, and more specifically, high temperature alloys (Fe+Cr+Ni). The inclusion of Nickel increases the level of corrosion resistance and integrity the steel can maintain at extreme temperatures. Understanding the amount of Nickel present in each grade will determine how much overall pricing will be affected by the Nickel market.

**Integrating Surcharges** – When raw materials like Nickel are more or less available in the marketplace, the price to obtain them fluctuates. Steel producing mills pass these price variations on to their customers in the form of surcharges. Furthermore, each producing mill has their own formula for calculating overall surcharges. When buyers pay attention to surcharge fluctuations, they may be able to stock up on needed inventory as surcharges drop. Locking in contracts based on full price rather than base cost is another opportunity to bypass the sometimes unpredictable market price changes and help you to become a more informed buyer.

**Track the Indicators** – As noted earlier Nickel is traded on the London Metal Market Exchange. Just like many other traded commodities, trading prices for Nickel can often be tied to leading indicators including *consumption, mine production, scrap prices, and Nickel Pig Iron*. Determining the indicators in which you have the highest level of confidence is helpful in predicting trends.

Consumption – The global economy plays a vital role in the international metals market. China is a heavyweight given its high levels of metals consumption and production. In 2012, the country was responsible for consuming 46% of global Nickel output. Unfortunately, manufacturing is declining in China, and this slowdown has caused global supplies of Nickel to build up and prices to drop.

Contrastingly, some sources indicate considerable growth is expected in demand for nickel alloys from aerospace industries, construction, vehicle demand, electronics and chemical industries over the next 5-7 years. The same can be said for expected growth in non-stainless steel applications. Primary nickel consumption is expected to grow between 4% - 5%. The question remains; will this growth have much of an impact when the world's largest consumer is on the decline?

Mine Production – Nickel is produced by a limited number of mines. These mines are in a constant state of flux, adding or idling production capacity. These changes in overall production capacity have a direct impact on Nickel pricing. Currently, production from mines is set to outstrip global demand for the second year in a row. New mines in Madagascar and New Caledonia are making an impact on this production growth, placing the supply higher than the demand.

Scrap Prices – Steel scrap is recognized as the single best leading indicator in the steel business. Swings in scrap prices can predict changes in steel demand and in turn, steel product prices. U.S. scrap prices have not increased since November of 2012. Although supplies of scrap are considered low, demand also remains low, which could result in flat or declining prices in the months ahead.

Nickel Pig Iron – Strange as it sounds, this alternative to pure nickel is commercially available and significantly less expensive. This low-grade byproduct of laterite nickel ore can be combined with chromium and other materials to produce 200 and 300 series stainless steel. Though considered “dirty” because the production process is environmentally unfriendly, this substitute for pure nickel influences the price of nickel in the market by lowering demand for pure and more expensive nickel in common applications.

From a fundamental perspective, until production goes down, Nickel pricing will stay low, lower perhaps, than it has been in nearly 5 years. By following the indicators and maintaining close contact with your supplier, you can make the best predictions on pricing so that your purchasing decisions are in the best interest of your company.

