

Substitution of low-nickel stainless steel grades finds momentum

- Metalworld Research Team

Increased use of low-or no-nickel steels continues to erode the market share of nickel-bearing 300-series stainless grades, the workhorse of the industry, at a time when the collapse of world nickel prices to half what the alloying metal cost in May has disrupted the global stainless steel marketplace. Mills continue to use a surcharge mechanism, which operates on market prices two months after the price of nickel is set, meaning that there is a lot of high-priced stainless inventory still in the hands of stainless mills and service centers made with nickel purchased at its peak of \$23/lb—almost twice what it cost in late August. So, reduced purchasing of stainless steel overall has been occurring in North America, according to service centers who just reported the lowest monthly shipments rate since last winter.

Declining pace in US

Annualized U.S. consumption of stainless steel sheet and strip is on pace to decline 14% to 1.58 million tons, based on five-month statistical data released by the Specialty Steel Industry of North America in Washington. Overall use of stainless steels of all kinds and shapes is expected to drop 8% this year. Distributors aren't buying as much stainless steel as before because high inventories at the start of the summer haven't been run down. The nickel price decline has made their stocks overpriced in a weakened steel-purchasing period. Still, buyers continue to seek ways to switch to lower-cost alternatives as prices for traditional stainless steel sheet mill products continue to sell 90% higher than did 18 months ago.

Series 200 without nickel



Notably, the use of 200-series steels, sometimes referred to as chrome-manganese stainless, has increased recently. The most durable of these grades, including 201 and 202, contain 3.5–6.0% nickel, compared with 8.0–10.5% nickel in Type 304, the most commonly used stainless grade. Other 200-series grades, such as Type 205, use as little as 1% nickel. Recently, however, new types of 200-series steels have been developed that use little or no nickel. Lower-cost manganese, usually in combination with nitrogen, is usually used in place of nickel in these grades. Both 200- and 300-series steels are referred to as austenitic stainless grades. While they are less expensive to produce and are often harder and stronger than most 300-series steels, the 200-series steels are also less corrosion-resistant and are more difficult to form and

weld. Still, global end use for 200-series stainless grades has increased to 10% from 6% in 2002, according to the Australian Stainless Steel Development Association. By comparison, 300-series steels now account for 60% of stainless use, down from 72% in 2002.

In mid-August, Japan's leading stainless steelmaker, Nippon Steel & Sumikin Stainless, announced plans to cut nickel-based stainless steel production further in August and September. The company plans to reduce production of stainless wire containing nickel by 40%, nickel-based stainless sheet by 40% and nickel-based plate by 10%. The company has capacity to produce 550,000 metric tons/year of nickel-based stainless.

Nickel slides

The dramatic 35.6% collapse in the nickel price may have a negative effect on South Africa's platinum miners which earn a significant portion of their revenue from nickel, according to analysts. "At the spot price South African platinum miners earn between 13% and 14% of their revenues from nickel, so it's a significant contributor," an analyst said. Although the nickel price has fallen it is still well above the price it was even one year ago. Over the last 24 months the nickel price has averaged \$24,000/tonne so current prices are still well above that." Recent high nickel prices were "more of a spike than a trend. It's also probable that platinum miners hedged their nickel prices at lower levels and would not have profited from the recent spikes.



Since May 22 nickel has fallen from \$53,735/tonne to \$34,600/tonne on July 19. This has opened up a completely new source of nickel, which has added around 80,000 tonnes per year to a market of only around 1.37 million. Nevertheless, experts said nickel would find support at around \$23,000/tonne to \$25,000/tonne because the process of producing nickel pig iron was twice as expensive as conventional methods. "Using conventional methods it costs around \$8,000 to \$10,000 to produce a tonne of pure nickel," said an analyst. "To produce a ton of nickel pig iron costs \$23,000/tonne so there will be some price support around that level for the next year or so, until new conventional nickel mines come on stream."

