



## AMM Features

### The Steely Staying Power of Stainless

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Although the price of nickel has trended sharply higher over the past two years, there still does not appear to be a wholesale shift by manufacturers away from the increasingly expensive high-nickel grades of stainless steel.

Instead, industry participants see trends in every direction, from substitution to project delays to normal use to even increased use of nickel-bearing grades of stainless steel.

One Southern service center manager said he's seeing greater risk-taking on downgrading to stainless steels that contain less nickel as a way to save money. But the savings come short-term, he said. "The mills have indicated there is more interest in lower nickel-containing grades like 201 and 301 and 430," he said. "And in some cases I'm hearing people are moving to carbon and coated steels at the expense of lifecycle. They're saying, 'If it lasts 10 years that's great. I won't be here in 10 years anyway.'"

Users are attracted by the lower price of lower-nickel grades of stainless. For example, including March surcharges, the price of standard-gauge cold-rolled sheet in Type 304 costs about \$2.28 a pound, while Type 201 costs just \$1.62 a pound.

The service center manager said, however, that while Type 201 has a price advantage, it doesn't fabricate as easily as Type 304. "Type 201 has more manganese than nickel, so that creates some surface issues, like tiny seams forming. Plus, it's stiffer to work with," he said. "But for the most part they're just buying the look of stainless steel. I see a big move in that area."

Allegheny Technologies Inc., Pittsburgh, said it is seeing increased interest from customers for its Type 201 product. "It's becoming a larger and larger percent of our cold-rolled sheet business," Patrick Hassey, chairman, president and chief executive officer, told analysts during the company's earnings conference call in January. "There's no pricing pressure and the margins are good."

Hassey said some service center customers have been cutting back on purchases because of the high price of nickel. "For commodity stainless sheet, the record high cost of nickel, and the resulting record raw material surcharge, is causing some of our domestic service center customers to be conservative with their inventories in the first quarter of 2007," he said during the conference call.

To suppress nickel's impact, Hassey said he expects to offset some of the domestic service center inventory management actions through market penetration of its low-nickel 201 alloy. "The substitution part of our business continues to grow exponentially 2006 over 2005 and 2005 over 2004," he said. "I'm expecting to see that accelerate with these kinds of prices even further in 2007." Type 201 has been around for years, but Allegheny over the past several years has been developing its own branded line called 201HP, for "high performance."

Gary Carinci, senior development manager at TMR Consulting, Pittsburgh, said Type 201 was developed as a way to substitute for nickel when it was difficult to acquire. "The magnesium-bearing grade was developed in World War II when nickel was scarce," he said. "There was no nickel in the United States, but there was magnesium."

Since then and until recently, prices of Types 201 and 304 had been comparable. But 201 began seeing a revival when nickel prices started rising, and now that nickel has topped \$20 a pound Type 201 has gained a distinct price advantage.

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"People come out with new alloys and they're hard to sell unless they have a big incentive," Carinci said. "The big way to get people interested is to talk price."

In addition to Type 201, Carinci said other duplex stainless steels with lower nickel content also are becoming popular. One such grade from Finnish specialty steel producer Outokumpu Oyj is called 2101, as it contains 21-percent chrome and 1-percent nickel. "I've heard Outokumpu can't keep up with orders for 2101, which has a lower price than 304," Carinci said. "Everybody wants it, but there's only a limited volume."

Carinci said, however, that he had heard that stainless, despite its high price, recently had been used to substitute for copper piping in the renovation of the Plaza Hotel in New York City. "A lot of the major piping coming in was typically copper, but it was changed to stainless steel," he said. "I'm not sure they can allow PVC (polyvinyl chloride) on a high-rise in a high-pressure situation. Stainless is fantastic for plumbing applications, and if copper prices stay the way they are and stainless continues to offer a cost savings, I believe more plumbing fixtures may go to stainless."

Carinci said substituting another material and even another stainless for traditional austenitic stainless can be a hard sell. "It takes time for people to make changes, and they have to weigh the engineering costs to make the changes," he said. "If they think (high prices) will stick they're much more able to make the change. But they have to make sure the change will pay off over the long term in case these spikes in nickel and molybdenum come back down."

And, like the Plaza Hotel example, stainless is not the only metal with price issues. "The biggest thing you're seeing with stainless is it's hard to switch," Carinci said. "Right now, all the metals are pretty high priced."

Stainless also might be less susceptible to substitution because of its intrinsic qualities, including corrosion resistance.

One West Coast service center manager said he's not seeing stainless steel being substituted for other materials, but he is seeing delays in projects that use stainless. He said he sold a lot of stainless material in the last week of February as users sought to buy before the higher March surcharges kicked in. "There was a big increase just around the corner, and that was our biggest month for sales and tonnage," he said. "They were just trying to beat the price increases."

On the other hand, one of his customers—one of the many fruit and vegetable cold-storage facilities in agriculture-heavy California—has postponed an annual modernization upgrade. "Most stainless projects are going forward," the service center manager said. "But one company that replaces sections of its cold-storage facility racks every year has chosen to wait."

A gas used inside some cold-storage units is slightly corrosive, so users tend to favor high-nickel grades of stainless since they will last longer than other materials, including the less-expensive stainless grades.

Couturier Iron Craft Inc., Comstock Park, Mich., which has been recognized with awards for craftsmanship of its stainless steel and glass staircases and other custom railing projects, customarily uses a variety of stainless steels, as well as brass, aluminum and other materials. Dick Couturier Sr., owner of the family run business, said the higher price of stainless steel does not seem to be discouraging architects from using it. "Not so much," he said. "It seems like they're getting more into it."

Couturier said his company just finished a stainless-clad stairway at the Fort Lauderdale airport in Florida and another stainless stairway at the University of Pennsylvania.

He said architects typically use stainless for its aesthetic qualities, whether it's an interior or exterior application. Outside, it also wears better with less maintenance than a painted or coated carbon material. "The product we supply is often the monumental feature of that building—the grand staircase, where you open the door and say 'wow.' That's what we do. It might be just a standard building otherwise, but it may have this featured stairway so the architect can make his name known."

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