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India a tough nut to crack for US ferrous scrap exporters

NEW YORK — U.S. ferrous scrap exporters will need to overcome various hurdles—including price, delivery time and freight costs—in order to become more attractive suppliers to Indian producers.

“India is not dependent on any one single major exporter (for scrap),” Ved Prakash, director at Antwerp, Belgium-based trading company Gemini Corp. NV, told AMM. “If the prices are attractive, Indian buyers will go to the U.S.”

Another disadvantage that U.S. exporters face is the 45-day freight time for shipments compared with closer destinations such as the Middle East, which only takes



Not so fast. Despite India's theoretical promise as a market for U.S. ferrous scrap suppliers, there is a harsh reality of logistical challenges, costs and other hurdles.

four days, and South Africa's 10- to 12-day shipment duration, he said.

U.S. exporters based in California also face a logistical challenge posed by Indian buyers' 20-foot container requirement, which raises overall shipping costs (*amm.com*, Nov. 11).

“Ninety percent of the scrap exported from the U.S. to India originates from the East Coast, largely in containers,” Prakash said.

One thing many U.S. suppliers fail to understand is how fragmented the Indian steel industry is—and its impact on perceived market demand, he said, adding **PAGE 2**

JCI targets growth in lead-acid batteries

PITTSBURGH — The North American lead-acid battery market will see steady and continued demand growth through 2016, driven by strength in the automotive sector and a steady aftermarket for batteries, according to a Johnson Controls Inc. (JCI) executive.

“The traditional lead-acid battery market will continue to grow globally for quite some

time,” Joe Walicki, vice president of JCI and president of its Power Solutions division, told AMM, noting that growth in the U.S. market will be on par with gross domestic product rates. “The (traditional lead-acid battery) market is not growing rapidly, but it is growing. ... Start-stop (battery consumption) will grow inside of this much faster.”

Walicki said that of the 146

million batteries sold by JCI over the past year, the majority were traditional lead-acid batteries, followed by absorbent glass mat (AGM) batteries used in start-stop vehicles.

The use of start-stop batteries was “driven primarily by Europe. In the U.S. it's predominantly an SLI (starting, lighting, ignition) battery market,” he said. “If you look at the U.S. market **PAGE 2**

Trade enforcement big roadblock for UK steel

The U.S. and U.K. steel industries face significant challenges from imports and declining end-market demand, but the British industry is also battling a lack of robust trade enforcement and government support, according to market participants. **PAGE 3**

Service centers see no consolidations

Consolidations may not factor into many service centers' strategic planning for 2016 as distributors hesitate to sell in a low-price environment, industry observers said. **PAGE 8**

Nickel prices end 2015 near a 12-year low

Commodities had a disastrous 2015, but nickel suffered most, ending the year near a 12-year low. **PAGE 9**

STEEL

US duties could push steel sheet import prices higher **PAGE 4**

Flat-rolled & pipe prices hardest hit among benchmark steel products **PAGE 4**

Mexican mills benefit from better trade defense **PAGE 5**

Marcegaglia focuses on core business growth **PAGE 5**

SUPPLY CHAIN

Tough market yields positive results for lab equipment maker **PAGE 8**

NONFERROUS

Copper: A Year of Cuts and Corrosion **PAGE 9**

Luvata hopeful on copper tube growth trends **PAGE 10**

Southwire appoints Stinson chief executive **PAGE 10**

Copper complaints go back a long way **PAGE 11**

SCRAP

Recycler charging for scrap metal drop-offs **PAGE 11**

Low scrap prices may squeeze Schnitzer margins **PAGE 11**

Ship recycler stays afloat while prices sink **PAGE 12**

Scrap operation, owner found in contempt of court **PAGE 12**

NUMBER OF THE DAY

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Fee per cubic yard an Oregon recycler is charging customers for scrap metal drop-offs. **PAGE 11**

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India a tough nut to crack for US ferrous scrap exporters

CONTINUED FROM PAGE 1

that Indian buyers often “shop around” in order to attain the lowest price possible.

“If one buyer needs 10,000 tonnes it will place an inquiry to 10 trading companies, which will then check the market. It will seem as though there is 100,000 tonnes in demand based on the total inquiries, but the truth is there is only 10,000,” Prakash said.

Deemed a bright spot within the turbulent global scrap market, India’s unique raw material consumption dynamics make the country very flexible in its response to global commodity prices.

“India is probably the only country that uses all raw material in good equation,” Prakash said, noting that Indian steelmakers produced about 90 million tonnes of steel this year. Of this total, about 50 million tonnes were produced from iron ore, 20 million tonnes using direct-reduced iron and 20 million tonnes from scrap.

“India consumes about 20.5 million tonnes of scrap per year, of which about 6 million tonnes are imported scrap,” he said, adding that India is likely the only country with this advantage, making it slower in responding to international price changes.

Driven solely by price and a preference for domestic material before turning to international markets, India is capable of increasing its steel production while decreasing scrap imports, Prakash noted.

“For India, there has never been any trend, and (the market) can go either way,” he said. Compared with Turkey, where the European Union has a dominant market share in the nation’s scrap imports, India’s scrap imports are distributed amongst its four major suppliers—the European

Union, the United States, South Africa and the Middle East—while tens of other smaller countries play a balancing role in its import pattern.

“It is difficult for the outside world to ascertain what India is going to do next,” according to Prakash. “It is easier to predict what will happen with Turkish producers because you can see a trend. But for India, they can afford not to buy from the U.S. or any other major exporter for six months.”

MEILING TOH
MEI.TOH@AMM.COM

JCI targets growth in lead-acid batteries

CONTINUED FROM PAGE 1

last year, 5 percent of batteries were start-stop.” JCI predicts that by 2020 more than half of vehicles will utilize start-stop technology.

Aftermarket sales account for roughly three-quarters of all batteries sold by the Milwaukee-based company, while remaining sales were for original equipment (OE) consumption. Batteries sold into the OE markets are susceptible to macroeconomic changes, whereas aftermarket sales generally are steady and fairly predictable, Walicki said.

“In the law of big numbers, it’s an aftermarket business. ... The average age of a vehicle (in the United States and Canada) is about 11 years,” Walicki said, noting that within that lifecycle a car owner may need to replace the battery three or four times.

Meanwhile, tighter government fuel economy and carbon emission reduction targets are prompting automakers to shift from conventional vehicle technology to more advanced and efficient vehicles that utilize AGM batteries, and start-stop technology is a key ingredient to help them meet new standards, he said.

In order to tap expected demand growth for AGM batteries, JCI plans to increase production by 4.4 million units by 2020 (*amm.com*, Dec. 1). “The good news for the (lead industry) is these are all lead batteries,” Walicki said, noting that AGM batteries contain more lead than a traditional battery.

Walicki expects the lead-acid battery recycling market also will remain steady over the coming year, although tolling capacity remains a point of focus following the closure of Exide Technology’s Vernon, Calif., secondary lead smelter (*amm.com*, March 12).

JCI opened a \$150-million lead-acid battery recycling plant in Florence, S.C., with a capacity

to recycle up to 132,000 tonnes of automotive batteries per year (*amm.com*, Sept. 19, 2012). “We are very happy with the site and yield. We have a network in North America of battery recyclers and that network is performing well for us,” Walicki said.

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Trade enforcement big roadblock for UK steel sector

NEW YORK — The U.S. and U.K. steel industries are facing significant challenges from imports and declining end-market demand, but the British industry is also battling a lack of robust trade enforcement and government support, according to market participants.

The U.K. steel industry suffered a well-publicized downturn throughout 2015, shedding about 4,000 jobs, according to *AMM* sister publication *Steel First*. The downturn crimped U.K. steel production by 7.4 percent during the first 10 months of the year compared with the same period a year earlier, according to the latest data from the World Steel Association.

“The international challenge that is now the challenge of China and Russia as well is increasing exports, and how different regions in the world tackle those imports into their regions,” Gareth Stace, director of trade association UK Steel, told *AMM*. In this regard, the United Kingdom faces a greater challenge than the United States due to weaker trade laws.

“We need much more fundamental reform in how we tackle trade, unfair trade in particular,” he said, adding that the United States’ “Shoot first, ask questions later” approach of imposing preliminary duties, for example, is justified in a world where steelmakers are facing make-or-break challenges.

“Nobody has learned how to deal with trade cases like the (United States),” Mario Longhi, chief executive officer of Pittsburgh-based U.S. Steel Corp., told *AMM* in October during the World Steel Association’s annual meeting in Chicago. While the European Union is seeing the same kind of difficulties as the United States in terms of imports from such countries as China, several countries need to agree on “everything” and so it is a “complicated affair” when it comes to imposing import duties in Europe.

The British government in recent months has started to advocate for more trade protection, although the results remain to be seen, Stace said.

Local steel procurement is also not as widespread across the Atlantic, with existing U.K. procurement standards making it “almost rude to buy U.K. steel,” he said, adding that the country should consider adopting an approach closer to domestic Buy America rules for some state and federal work.

“Let’s start with U.K. steel,” Stace said, noting that this would also fulfill the government’s stated

goals of combating issues such as climate change and global labor standards since the U.K. industry is well regulated compared with others around the world.

But Chinese overproduction and high imports might not be the only culprits behind the U.K. industry’s malaise. A generally slow recovery following the global economic collapse in 2008 and 2009 is also to blame. “We’re starting to come to the realization that it’s not all China’s fault but that we are operating in a fairly constrained market in terms of demand,” according to Ben Orhan, senior economist at London-based IHS Inc., noting that construction markets across Europe have been hit particularly hard.

In addition to soft demand, the U.K. industry has also suffered from some ill-advised business strategies. “Sahaviriya Steel Industries (SSI) UK Ltd., for instance, they were simply producing plate and slab,” he said. “The (United Kingdom) is fairly high cost in terms of production. How can they possibly make money by producing it in the (United Kingdom), shipping it halfway around the world and then turning it into coil and selling it in an area where they compete with China?”

SSI, a subsidiary of Thailand’s Sahaviriya Steel Industries Plc, went into liquidation in early October (*amm.com*, Oct. 2).

Also pressuring the U.K. steel industry are heavy environmental taxes and costly power plans. “There is a lot of noise about environmental costs. Heavy

industries (in the United Kingdom) pay a lot more for their power than those in countries like Germany and France,” according to Orhan, noting that the industry is not seeing a lot of help. “While it’s important to have a steel industry, it doesn’t carry the same importance that it did 40 years ago. ... The world is much more interconnected; you won’t struggle to find steel on the world market.”

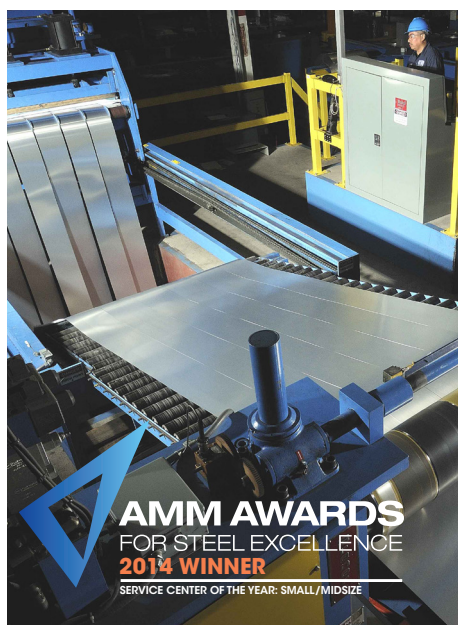
As a result, moving up the value chain to higher-margin product is key for U.K. producers, and probably for producers everywhere in the developed world. “I think that the European higher-end steel producers have managed to tap into higher-value markets like automotive and machinery and have been able to achieve decent margins,” he said.

But investing to make higher-quality steels is tough when markets are bad and conditions advise against expansion, Orhan said.

While steelmakers can help themselves by developing better strategies, and in turn can draw support from politicians, China’s impact in the market is also undeniable, according to Orhan. “When you’ve got such a large part of the market not acting in market economy fashion, it’s going to distort the entire market and make it difficult to predict who’s going to shut and who’s going to keep operating,” he said.

“The European steel industry is sort of at an inflection point,” Philip K. Bell, president of the Washington-based Steel

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Manufacturers Association, said. "I would hope that European domestic steel producers and labor unions would not just cede such a vital industry."

THORSTEN SCHIER
TSCHIER@AMM.COM

US duties could push steel sheet import prices higher

CHICAGO — The New Year could see prices for imported steel rise along with domestic tags, assuming demand sees a typical first-quarter rebound, trader sources said.

"Prices for next year are a new ballgame," one trader source said. "We always have a better market in the first quarter. And since buyers have been on the sidelines for so many months, there has to be a spike in demand."

But just because steelmakers want tags to rise doesn't mean they will, a second trader source said. "People are trying to direct prices higher, but whether it really sticks is going to be a question of demand. We will have to see if things pick up downstream to support a price increase."

Should prices rise, the change would likely be seen first on galvanized before spreading to hot-rolled and cold-rolled, some market participants said, in part because a trade petition against coated steel was filed before cases targeting hot-rolled and cold-rolled (*amm.com*, Aug. 12) and preliminary duties on coated material are already having an impact.

The Commerce Department has leveled preliminary anti-dumping margins against China, India, Italy and South Korea in the coated case, and the triple-digit duties on Chinese producers are expected to remove their product from the U.S. market (*amm.com*, Dec. 23).

Indian producers face preliminary countervailing duty margins of between 2.85 and 7.71 percent (*amm.com*, Nov. 3) and preliminary anti-dumping duty margins of between 6.64 and 6.92 percent (*amm.com*, Dec. 22), and the combined duties could prove difficult, the first trader source said. "It won't be so easy for India, which was the second-biggest source of light-gauge galvanized,

to keep on shipping. When the market recovers a little bit, they can do some niche products—very light gauge, where there is not much availability worldwide."

Duties against material from other nations could increase as domestic mills are expected to lobby hard for higher final margins, trader sources said. Korea and Taiwan are likely to be the main focus of that push, given their production of Galvalume, a key product for some domestic mills, sources added.

Korean mills face single-digit duty margins and Taiwan is off the hook for now but could face duties at the final stage of the trade case (*amm.com*, Dec. 29).

Another reason to bet on higher prices in 2016: hot-rolled and cold-rolled tags in the Far East are rising, which should have a ripple effect on prices outside the region, trader sources said.

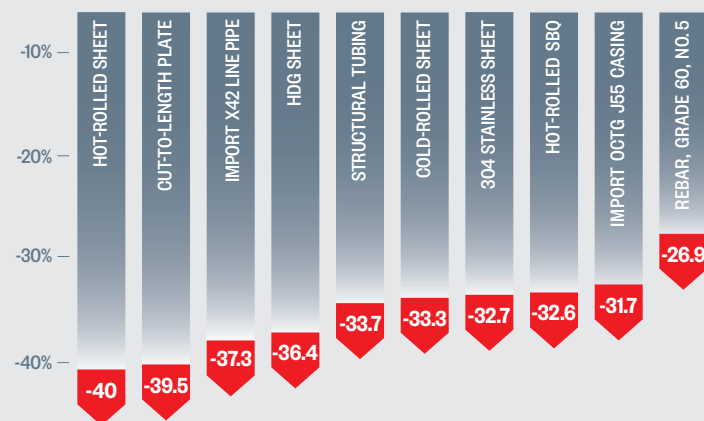
Chinese prices for hot-rolled coil to Vietnam, for example, now stand at \$285 per tonne c.f.r., up from \$250 to \$260 per tonne previously, the first trader said. "The Vietnamese re-rollers will have to increase their price. Vietnam may be a communist country, but they're not like the Chinese. They want to make money."

But traders shouldn't expect a bonanza of orders from U.S. steel consumers, especially ones burned by imports in 2015, one purchasing executive said. "You ordered foreign, you waited for it, and by the time it came your spread (vs. domestic mills) was not what you thought it would be. So we're staying with domestic mills (in 2016) because they've done what they needed to do to get the prices competitive."

Given limited holiday activity, AMM's price assessments for offshore material are unchanged at \$320 to \$340 per ton (\$16 to \$17 per hundredweight) c.i.f. Port of Houston for hot-rolled coil; \$400 to \$460 per ton (\$20 to \$23 per cwt) for cold-rolled; and \$580 to \$610 per ton (\$29 to \$30.50 per cwt) for 0.019-inch G60 hot-dipped galvanized.

MICHAEL COWDEN
MCCOWDEN@AMM.COM

FLAT-ROLLED & PIPE PRICES HARDEST HIT AMONG BENCHMARK STEEL PRODUCTS



Source: AMM.

Low and lower. Flat-rolled and pipe were among the hardest hit steel prices in 2015, according to AMM records. Hot-rolled sheet fell 40 percent to \$18 per hundredweight from \$30 per cwt Jan. 2, while cut-to-length plate dropped 39.5 percent to \$23 per cwt from \$38. Welded pipe—both oil country tubular goods and structural tubing—also fell significantly on the back of plunging coil and oil prices. Domestic beams saw one of the smallest declines, falling about 10.3 percent to a range of \$680 to \$720 per ton from \$780 in the same comparison.

Steel downturn leads to city budget woes

PITTSBURGH — A steelmaking city is tackling financial concerns as the chill of a cold melt shop and rehear furnace spreads throughout the region.

The city of Lorain, Ohio, has been slapped with an unanticipated budget shortfall due to a double whammy of falling scrap prices and idlings by two steelmakers.

Low oil and gas prices have resulted in both Republic Steel (*amm.com*, March 26) and U.S. Steel Corp. Lorain (*amm.com*, Jan. 6) being idled for most of the year, causing the city to lose tax revenue.

The city's \$33-million annual budget could see a \$3-million shortfall, due primarily to the economic impact of the mills not running, Mayor Chase Ritenauer told AMM. "Obviously, it has a negative impact and we will see significantly less (tax revenue) than projected. The positive is that we have underspent the budget by \$700,000 and have \$1 million in reserve," he said.

The city has lost additional revenue from the precipitous drop in scrap prices because it has been unable to generate as much revenue through the mining of

scrap metal from land it owns that used to be used by a steel mill.

"Our steel-reclamation project brought in hundreds of thousands of dollars (in 2014) and we felt (2015) would have been even more, but if we break \$100,000 net I will be surprised," Ritenauer said. "During steelmaking, a lot of steel that wasn't made to specification was just dumped as scrap. There's a lot of scrap (behind the old mill) and some think we could continue to dig for several years."

With as much as \$1.7 million of a 2015 deficit rolled into 2016's budget, a lot of cuts will be needed, he said. "Everything is on the table. Specifically for health services, it might be the time to really figure out how to get this done at the county level. We are looking at cuts through attrition, restructuring some departments, and layoffs are realistic and on the table."

The city is determined to stay fiscally responsible after spending 11 years under a state "fiscal watch," finally escaping scrutiny in 2013. Ritenauer said the city will have to make difficult decisions to avoid being placed back on watch.

"We are preparing for a very challenging year with the loss of income tax receipts from the two mills and the reclamation project. We will budget very conservatively, and when steel comes back hopefully we are in position to take advantage of it,"

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STEEL

Ritenauer said, but acknowledged that 2016 does not appear to be geared up for a rebound.

Local businesses also are impacted by mill inactivity. “The restaurants and those places and towns that depend on disposable income are feeling it. The (steel) workers would eat and spend time in the city,” Ritenauer said.

Displaced workers are taking different approaches. “Some are looking elsewhere for work, some are taking buyouts, and some are waiting for it to come back,” he said.

LISA GORDON

LGORDON@AMM.COM

Mexican mills benefit from better trade defense

SÃO PAULO — Mexico has seen significant changes in domestic trade defense in 2015, with the government becoming more agile in the use of protective measures in an effort to avoid production cuts and job losses.

The Latin American country changed its focus to fight booming steel imports after local steelmakers threatened massive work force cuts and to halt investments.

The Mexican steel industry had demanded for several years an update in the country’s trade defense rules and more measures to protect the industry from rising imports from countries outside the North American Free Trade Agreement. A frequent complaint from steelmakers was the slow process of trade investigations.

After discussions with the national steel association, Canacero, and the country’s industrial chamber, Concamin, Mexico’s economy secretariat said in June it would issue a decree to update trade defense legislation. It also said it

would speed up anti-dumping investigations, toughen import regulations and take measures to increase control over direct and indirect steel imports.

Since June, the economy secretariat has imposed provisional anti-dumping duties on imports of hot-rolled coil from China, France and Germany; announced provisional anti-dumping duties on imports of welded carbon steel tube from India, Spain and the United States; extended existing countervailing duties on cold-rolled coil from Kazakhstan and Russia; extended a countervailing duty on steel connector imports from China; started an anti-dumping investigation into wire rod imports from China and Taiwan; imposed a temporary six-month import duty of 15 percent on slab, cold-rolled coil, hot-rolled coil, heavy plate and wire rod from countries with which Mexico does not have a free-trade agreement; and started an anti-dumping probe into imports of coated flat steel products from China and Taiwan.

The government action came after concerted efforts by Mexican steel producers, who raised the stakes by announcing massive work force cuts and a series of capacity shutdowns.

In early June, Ahmsa said it would reduce output by 20 percent and cut 4,500 jobs, and threatened to cut more jobs by importing slab rather than producing it in Mexico. Luxembourg-based ArcelorMittal SA cut a total of 2,800 jobs at its Mexican operations, while Mexican long steel producer Deacero SAPI de CV has cut 2,500 jobs in the past two years and halted production at one steel mill.

Steelmakers complained that the temporary 15-percent import duty on slab, cold-rolled coil, hot-rolled coil, heavy plate and wire rod was not enough to fully compensate for the drop in import prices. Nevertheless, the measure was seen as a way to buy time as trade investigations advance and

new trade cases are presented to the government, and Ahmsa said it would reconsider its plan to stop slab production in the country.

The country’s steelmakers said they were preparing new trade cases targeting imports of rebar, sections and welded tube, although it is not clear whether the trade cases will be enough to help the industry when provisional import tariffs expire in March.

The government has given no indication that its effort to curb steel imports is over—in early December, Mexican economy secretary Ildefonso Guajardo Villareal said he could take further measures to protect the local steel industry—and the trend of increasing trade measures to protect the Mexican steel industry looks set to continue in 2016.

FELIPE PERONI

NEWSROOM@AMM.COM

This article was first published by AMM sister publication Steel First.

Marcegaglia focuses on core business growth

LONDON — As Italian pipemaker Marcegaglia SpA completes its reorganization, the company’s focus is on reinforcing its position in its core business, according to its top executive.

“We have moved forward (with the reorganization) in line with our plan, perfectly on time,” chairman and chief executive officer Antonio Marcegaglia told AMM sister publication *Steel First*. Three operating companies—Marcegaglia Carbon Steel, Marcegaglia Specialities and Marcegaglia Plates—are controlled 100 percent by holding company Marcegaglia Steel.

In addition, Marcegaglia Investment controls noncore activities related to the building sector, building solutions, renewable energies—especially

waste to energy—real estate and other businesses. These businesses are potentially for sale, Marcegaglia said. “We are in no rush. There is no need to hurry, but we plan to divest some of the noncore businesses in order to reinforce our position in the core business.”

In addition to the reorganization, Marcegaglia has been working on the company’s corporate capital and debt position. “We have completed a corporate increase of capital by some €30 million (\$32.6 million), and we are in the process of finalizing a long-term loan of between €450 million and €500 million (\$489.7 million to \$544.1 million) for a seven-year term to reduce the short-term debt and rebalance the time horizon of our debt,” he said.

The rationale behind the company’s reorganization remains unchanged. “We want to do this not because we want to be less important in the core business, but the opposite,” Marcegaglia said. “We may be looking for potential alliances (for the different operating companies) and/or acquisitions to allow for fast and more balanced growth in the core business.”

He gave away little in terms of progress in any partnership or acquisition discussions. “We have had some early stage talks,” he said.

Marcegaglia had expressed optimism in the summer for the outlook for the steel business during the second half of the year. “Volume-wise, we are in line with our budget, which shows growth of around 3.8 percent in our Italian activities. We see much stronger growth in Poland (18 percent). It is a little bit more difficult in Brazil in terms of volume, and in China as well,” he said.

In terms of sales, Marcegaglia expects to achieve levels similar to 2014 due to a drop in fourth-quarter average prices vs. a year earlier. “The increase in volume did not fully translate into an increase in turnover,” he said. “In

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terms of margins and (earnings before interest, taxes, depreciation and amortization), the second half was overall better for us than the first half, including (the fourth quarter), because we have been able to manage relative stability of prices throughout October. November and December will be a little bit lower.”

As for 2016, Marcegaglia does not expect to see a significant change in demand. While there may be a small uplift on some restocking at the beginning of the year, the overall outlook is stable, he said.

Exchange rate movements, particularly following the interest rate increase by the U.S. Federal Reserve Board, will play a critical part in business strategy. “There may be some opportunities for exports outside of Europe because of the dollar’s strength, so we are planning to be more present in the non-European market, especially with flat products,” Marcegaglia said.

The European Commission’s anti-dumping case on cold-rolled steel—and the potential for hot-rolled, plate and hot-dipped galvanized investigations against China—should help those product lines, according to Marcegaglia.

The fate of domestic steelmaker Ilva SpA is still dominating discussions in the Italian steel industry. The Italian government is looking to sell the company’s steel mill in Taranto, Puglia, by June 30.

Marcegaglia and Luxembourg-based ArcelorMittal SA, which had made a joint nonbinding offer, withdrew from an earlier sales process in December 2014.

Is Marcegaglia planning to make another offer for the ailing steelmaker? “We have been solicited as an important player in Italy and have previously been engaged in this,” Marcegaglia confirmed.

The government is more actively working on the sale now, he said. “We are listening and are trying to understand the situation. We are consciously looking at it, but it is too early to say that we may make a bid or not.”

He is quick to point out that the situation is more challenging now than a year ago. The market environment has changed, prices are down and the financial health of Ilva will require close examination of capital expenditure plans and results.

“They are certainly in the red, but I don’t know how much,” Marcegaglia said. “The situation is definitely more challenging.”

VERA BLEI
NEWSROOM@AMM.COM

A version of this article was first published by AMM sister publication Steel First.

Brazil steel sector sees little to look forward to

SAO PAULO — The Brazilian steel industry will start 2016 hoping for government support and protection—but whatever the Brazilian government decides to do, mills will continue to face challenging market conditions.

“The 2016 scenario for the steel sector is quite negative,” Felipe Beraldi, an analyst at São Paulo-based economic consultant Tendências, told AMM sister publication *Steel First*.

Tendências expects the country’s gross domestic product (GDP) to fall 3 percent in 2016 following a 3.8-percent contraction in 2015—including a 4.5-percent annualized dip in the third quarter, the worst quarterly result since 1996, according to the Brazilian Institute of Geography and Statistics.

Brazil’s steel association, Instituto Aço Brasil (formerly IABr), said at the end of November that steel sales to the Brazilian market are expected to fall 4 percent to 17.44 million tonnes in 2016 while apparent steel consumption will decline 5.1 percent to 20.28 million.

“The scenario for investments in (Brazil) is very negative due to uncertain political and economic conditions,” Beraldi said. “We should also see the unrolling of the (Operação) Lava Jato (corruption scandal) affecting investments in infrastructure, which will be negative for steel demand.”

Pedro Galdi, an investment analyst at São Paulo-based WhatsCall, agreed. “The steel market in Brazil in 2016 will be very weak, but (much) will depend on the results of the impeachment (proceedings against the country’s president),” he said.

Brazil’s economic conditions have been deteriorating over the past few months, with the political crisis worsening significantly in

recent weeks.

The speaker in Brazil’s lower house of congress, Eduardo Cunha, started impeachment proceedings Dec. 2 against president Dilma Rousseff over allegations that she broke fiscal laws by window-dressing government accounts ahead of her re-election in 2014. Cunha himself is fighting charges related to an alleged bribery scheme.

Meanwhile, the Brazilian steel sector could see further capacity shutdowns in 2016 as a result of poor market conditions, analysts said.

“We cannot dismiss this possibility (of plant closures),” Beraldi said.

“Mills are eyeing cost-cutting programs, and stoppages and asset sales should continue to be on the radar,” Galdi said.

Another São Paulo-based analyst agreed. “We should see more output cuts like the one carried out by Usiminas (Usinas Siderúrgicas de Minas Gerais SA,” he said. “I would bet on Gerdau (SA).”

Flat steel producer Usiminas has announced it will fully deactivate primary activities at its Cubatão Works in São Paulo state by Jan. 31 (*amm.com*, Dec. 16), while Gerdau closed and transferred some capacities throughout 2015 because of weak market conditions, with closures mainly confined to its special steel division.

The country’s foreign trade and industry minister, Armando Monteiro, said in late November the Brazilian government was considering an increase in import tariffs on certain steel goods to between 15 and 20 percent, and on Dec. 10 Brazil created an inter-ministerial group called GTIS to advise Rousseff on measures to support and strengthen the national steel industry.

“Something good (may come from GTIS), but the level of political uncertainty is high, and an increase in import tariffs is not (the unanimous view) among the government members,” Beraldi said.

For Galdi, an increase in import tariffs on steel goods would be the sole solution to be unveiled by the government. But the São Paulo-based analyst believes that such action wouldn’t have the necessary impact “as Chinese products would enter the country at any cost.”

Beraldi believes the export market should continue to act as an escape valve for Brazilian mills in 2016, driven by a continuous

depreciation of the local currency. “Steel producers will continue looking at the export market,” he said, but noted that global steel overcapacity and growing steel exports from China would increase competition abroad.

ANA PAULA CAMARGO
NEWSROOM@AMM.COM

A version of this article was first published by AMM sister publication Steel First.

Turkey not dumping steel, exec says

BURSA, Turkey — Low-priced Chinese shipments are one of the most critical problems facing the Turkish and global steel industry, according to a Turkish executive.

“China produces 850 million tonnes of steel per annum and does anything to sell, even without obeying the regulations of the World Trade Organization. This includes dumping and state support, while Turkish exporters have to obey global market regulations,” Mustafa Çikrikçioglu, deputy chairman of the Turkish Exporters Assembly and the Turkish Steel Exporters Association, told AMM sister publication *Steel First*.

Turkey has been targeted in many anti-dumping investigations but all have ended in the country’s favor, he said. Still, Turkish exporters have been negatively affected because buyers held back from placing orders for fear of having to pay potential duties.

Global steel trade decreased in 2015 in line with falling commodity prices, and Turkish production also fell. Çikrikçioglu said this would not have been the case if Turkish steelmakers had dumped material.

“If Turkey had dumped exports, capacity utilization would not have decreased,” he said, noting that many steel producers in China are selling at a loss because they have state support.

Turkey’s steel exports fell to 17.5 million tonnes in 2014 (*amm.com*, Jan. 7, 2015) from 19.9 million tonnes in 2012 (*amm.com*, Jan. 7, 2013), which Çikrikçioglu cited as further proof that Turkey is not dumping. The country exported 14.7 million tonnes in the first 11 months of 2015.

Çikrikçioglu also blamed

[continued >](#)

STEEL

low capacity utilization in the Turkish steel sector on low-priced semi-finished exports from China. “Scrap is around \$185 to \$197 per tonne now, while billet is \$250 per tonne c.f.r. from China even if their production cost is around \$285 per tonne c.f.r.,” he said. He pointed out that the billet export price from Commonwealth of Independent States countries is a minimum of between \$275 and \$280 per tonne c.f.r.

SERIFE DURMUS





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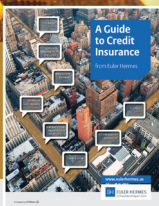
A version of this article was first published by AMM sister publication SteelFirst.

Options for Mitigating Trade Credit Risk

With the uncertain global economic climate, strategic credit management is more important than ever for the success of businesses in the metals industry. Self-insurance, letters of credit, and credit insurance are all commonly used methods to mitigate trade credit risk, each of which can be valuable in certain circumstances.

In our white paper: *A Guide to Credit Insurance*, not only will you be able to evaluate your options for mitigating credit risk but you'll also discover a solution that will help you:

-  Protect against non-payment of commercial debt
-  Confidently grow sales without credit concerns
-  Enhance efficiency of your credit department
-  Improve borrowing and financing options



Download your free white paper:
A Guide to Credit Insurance now.
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Service center mergers not on horizon

NEW YORK — Consolidations may not factor into many service centers' strategic planning for 2016 as distributors hesitate to sell in a low-price environment, industry observers said.

"These companies don't have much value. Inventories are down so much in price that there's nothing there. And if you're in that position that you can't get much for your assets, it may seem delusional to think you're getting a good deal," said Charles Bradford, president of New York-based Bradford Research Inc. "I don't think there's any great rush to sell."

In 2015, it was largely expected that consolidations, acquisitions and even bankruptcies were going to dominate the industry. Speculators thought the metals industry downturn would lead many service centers to sell their business (*amm.com*, April 29). But then steel prices slumped, and any distributors that might have been sold would have to be marketed at a loss.

Reliance Steel & Aluminum Co., normally one of the most active buyers of smaller service centers, made only one purchase: St. Louis-based Tubular Steel Inc. (*amm.com*, Dec. 1). And there were a few bankruptcies; as of the fall, three distributors filed for Chapter 11 protection from creditors or decided to close up shop (*amm.com*, Sept. 1).

A Midwest distributor source pointed out that many service centers are surviving because interest rates are low, but the greater challenge arises when those borrowing vehicles expire. In fact, the service center industry is expected to continue struggling through the new year.

"We remain watchful of potential distress in the service center landscape as 2016 progresses," Philip Gibbs, vice president and equity research analyst at KeyBanc Capital Markets Inc. in Cleveland, said in a mid-December research note.

But that is not to say transactions should be completely off the table for the service center

industry, Gibbs said, noting that there is a need for the highly fragmented market to consolidate.

"There were a lot of mergers and acquisitions that slowed down, so maybe those should be revisited to have economies of scale with the shortage in logistics that exists," said Brian D. Robbins, chief executive officer of Perry, Ohio-based MidWest Materials Inc.

While it's hard to forecast what is coming in 2016, Bradford noted that the recently passed highway funding legislation (*amm.com*, Dec. 2) could spur construction and help boost service center business, which in turn could prompt consolidation. "We really need to see steel prices go up and get a lot more movement when it comes to transactions," he said.

EMILIA DAVID

EMILIA.DAVID@AMM.COM

Tough market yields positive results for lab equipment maker

PITTSBURGH — Steel mills' reduced operating margins and increasingly stringent quality requirements are working to improve demand for Cianflone Scientific LLC's products.

The collapse in metals prices and weak operating demand at mills is not fazing the Pittsburgh-based company, which has been enjoying steady orders for equipment all year, general manager Doug Hart said.

Cianflone was purchased last summer by Ardmore, Pa.-based Main Line Equity Partners LLC, and Hart was hired for his operations experience.

"I came on board at the time of the acquisition to bring an operating skillset to the business for Main Line's current and prospective manufacturing portfolio," he said.

The company manufactures laboratory and portable X-ray spectrographic equipment and mini-remelt furnaces used by metals-intensive industries, such as nonferrous metal recyclers and window manufacturers.

Even with recyclers tightening their belts as scrap prices come under extreme pressure, the company's remelt technology has

generated solid business.

"I was at a massive scrap facility and they took me into a corner. A guy said, 'This is my bottleneck—we can't provide a sample without your equipment,'" Hart said.

Cianflone's machine allows recyclers to melt a sample of an industrial account's load to the size of a button that reveals the chemistry of the metal.

"The payback is immediate," Hart said. Analyzing the metal prevents costly mistakes, such as paying higher Type 316 stainless steel scrap prices for less expensive Type 304. A sample button is shipped with the scrap, which allows the customer to be sure the requirements for the melt are being met.

"We are communicating and meeting with quality lab managers throughout the industry," HE said. "One of the few places investments continue is (in) the lab, because you have to have a good lab if you are going to run a good plant."

Remelt furnaces guarantee chemistry, but spectrographic equipment is finding a broader use in the coatings industry.

The equipment measures and detects alloy content, as well as the thickness of a coating. "The technology is defendable and an integral instrument to the quality-control aspect of the steel and steel-coating industries, which is becoming more important every day," Hart said, noting that window manufacturers that use coatings rely on the equipment. "We have several thousand units in the global marketplace, either in galvanized steel or the aluminum coating business."

Coating companies need to be precise in following specifications. Applying a coat that's too thick is wasteful and drives up raw material costs, while a coat that's too thin results in quality issues.

"It is supposed to be coated at an exact thickness. Anything less is a defect, and anything more results in lower yields. ... At coating operations, if they don't catch a problem, can you imagine the cost?" Hart asked. "How do you calculate a payback on disaster avoidance technology? That is where we are having a lot of activity, because of companies wanting to avoid liability, higher insurance claims and having their reputations lowered."

Cianflone is listening closely to its customers so it can forge new technology. "We are working

with customers and looking at ways to make our technology more comprehensive pieces of equipment that go into testing facilities. We have had people express interest in making our technology as broadly applicable as possible," he said.

LISA GORDON

LGORDON@AMM.COM

Nickel prices end 2015 near a 12-year low

NEW YORK — Commodities had a disastrous 2015, but nickel suffered most, ending the year near a 12-year low.

The London Metal Exchange's three-month nickel contract closed the official session Dec. 31 at \$8,700 per tonne (\$3.95 per pound), a 42-percent drop from a lofty \$15,000 per tonne (\$6.80 per pound) at the beginning of the year.

Nickel held fairly steady until the end of March, when LME prices plunged to \$12,425 per tonne (\$5.64

per pound). A spike to \$14,470 per tonne (\$6.56 per pound) in early May renewed industry hopes somewhat, but it was short-lived and the commodity fell to \$12,565 per tonne (\$5.70 per pound) by the end of the month.

Nickel continued on a downward yet volatile trajectory before a global shock—stemming from fears of dwindling consumption by China, the world's biggest base metal market—pushed prices down to what many hoped would be an absolute bottom for the year at \$9,450 per tonne (\$4.29 per pound) on Aug. 24 (*amm.com*, Aug. 24).

Prices did rebound in September and October, although continued pressures from inventory destocking, depressed demand

and excess supply kept nickel far from returning to the highs seen in the first half of the year.

In November, nickel proved just how low it could go, dropping below the \$9,000-per-tonne mark for the first time since 2003, hitting \$8,200 per tonne (\$3.72 per pound) on Nov 22. Prices have since rebounded slightly but for the most part have remained steadfastly below \$9,000.

Despite the low tags and an estimated 50 to 60 percent of producers under water, there have been few shutdowns, and even major producers like Vale SA insist that they intend to continue to increase output in 2016 (*amm.com*, Dec. 29).

Stainless steel, nickel's biggest consumer, is set for a lackluster

2016 after recording a 0.5-percent drop in global production in the first nine months of 2015, although output in the Americas did increase by 2.3 percent (*amm.com*, Dec. 22).

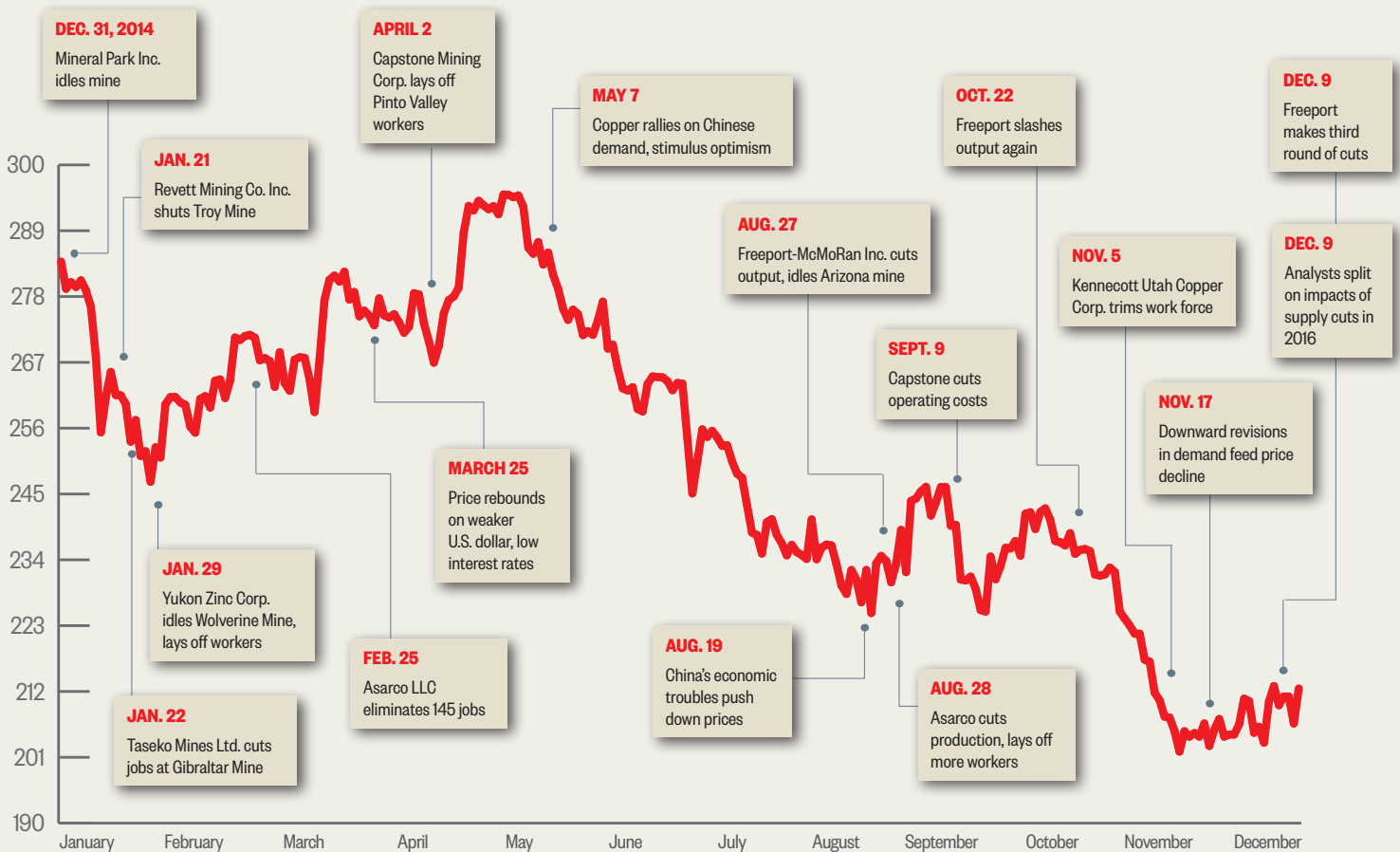
Nickel premiums in North America are holding steady at 15 to 20 cents per pound for melting-grade nickel and 49.85 to 54.49 cents per pound for plating material, according to AMM's latest assessments.

Despite the challenges and low demand, many suppliers have inventory ready and available to deliver, although there were no reported spot transactions. As one supplier source noted, the phones aren't ringing off the hook with inquiries.

CARLA BRIDGLAL
CARLA.BRIDGLAL@AMM.COM

COPPER: A YEAR OF CUTS AND CORROSION

COMEX CONTRACT JAN. 1 – DEC. 30, 2015
(in cents per pound)



Ups and downs. The price of copper fell sharply over the course of 2015 to a six-and-a-half-year low in November. After slumping early in the year, the most actively traded Comex copper contract rallied to a 2015 high of \$2.9505 per pound May 12 but then fell steadily to bottom out Nov. 23 at \$2.0195 per pound. The collapse was spurred by several key factors, including China's economic slowdown, the U.S. dollar appreciation, deteriorating investor sentiment and Federal Reserve interest-rate moves, according to industry analysts. Production curtailments are closing in on 1 million tonnes globally, although analysts are split on whether it will be enough to lift prices in 2016.

Luvata hopeful on copper tube growth trends

NEW YORK — Copper product manufacturer Luvata U.K. Ltd. expects 2016 to be another year of moderate growth for copper tube sales in North America.

The Brentford, England-based company, which produces specialized copper tubes for heat exchangers used in the air conditioning and refrigeration (ACR) market, expects rapid manufacturing expansions in Mexico and a re-evaluation of aluminum substitution will offset economic headwinds in the United States.

Luvata saw 3- to 4-percent growth in small-tube sales volumes in North America in 2015, according to Edward G. Rottmann, vice president of sales, marketing and product development, although the company had expected to see 5-percent growth in demand.

“We’ve seen a few years of modest growth, and expect to continue to see it in part because we’re starting from such a low base,” Rottmann said. “We’re still not talking about robust demand compared to historic levels.”

He noted, for example, that housing starts—a main driver of the ACR market—are currently averaging about 1.1 million per year in the United States. “The steady-state number, given our demographics, should be 1.5 million to 1.7 million units per year,” he said. “We’re still in the midst of this slow recovery.”

Furthermore, many people repaired their air conditioners instead of buying new ones following the 2008-09 recession, sparking a five-year lull in the replacement market. “This segment has returned to normal levels, but there remains a pent-up demand for replacement AC units,” Rottmann said.

On the upside, Luvata’s customers—original equipment manufacturers (OEMs) that produce heat exchangers—are rapidly expanding capacity in Mexico, generating more business for Luvata.

“Mexico is the most exciting ACR market in the world,” Rottmann said. “Virtually all major OEMs are adding capacity in Mexico.”

The Mexican ACR industry is driven primarily by U.S. demand, with roughly 90 percent of the air conditioners made in Mexico shipped to the United States.

“Our production in Mexico has grown rapidly, to the point where now approximately half of the tubes we make in North America are made in Mexico,” Rottmann said, noting that Luvata began producing copper tube in Mexico just five years ago.

The company expects to see demand growth of 5 to 8 percent in Mexico in 2016, outpacing anticipated growth of 2 to 5 percent in the United States.

Luvata purchases copper strip for its roll-and-weld facility in the United States, as well as copper cathode and sometimes scrap for its cast-and-roll operation in Mexico. Luvata also has two cast-and-roll facilities in China and one in Thailand.

Another positive development for the copper industry, according to Rottmann, is customers’ increasing need for thinner tubes. “The trend of going to smaller diameters has gone on for decades, but it’s accelerated in the last five years,” he said. “There is a strong expectation that the trend will continue to accelerate.”

Rising demand for “green” refrigerants, which have less of a carbon footprint but also tend to be more flammable and costly, are leading OEMs to push for lower refrigerant volume per unit and thus smaller tube diameters.

Although Luvata is purchasing less of the red metal as a result of the trend to smaller diameters, the steady drop in copper prices and the metal’s inherent quality advantages have enabled the copper industry to sustain market share vs. aluminum.

“Up until recently, aluminum was capturing a growing share of the ACR business,” Rottmann said. “Now we’re seeing customers reassess their plans for copper-to-aluminum conversions.”

Because conversions require extensive capital investments and long-term planning, the projected medium-term copper price is likely more important than the current copper price, Rottmann noted. However, due to the difficulty in projecting commodity prices, Luvata’s customers are increasingly expanding their capabilities to use both copper and aluminum tubes—and Luvata is following suit.

“In the U.S., Luvata is developing the capability to supply aluminum-enhanced tube to respond to the growing demand and to be more raw-material-flexible,” Rottmann said.

Still, copper has inherent advantages over aluminum in smaller tubes, particularly as they continue to shrink. Currently, copper is available in 4- or 5-millimeter tube sizes, while aluminum is more typically offered in 3/8- or 5/16-inch diameters.

“It’s reasonable to say at some point aluminum will have the capability to get down to 5 millimeters, but by then the (desired) diameter might be even lower,” Rottmann said. “(Aluminum tubes) will require technological advancement.”

GRACE LAVIGNE
GRACE.LAVIGNE@AMM.COM

Mueller in deal to build copper tube mill in Bahrain

NEW YORK — Mueller Industries Inc. has signed a joint-venture deal with Cayan Ventures and Bahrain Mumtalakat Holding Co. to build a copper tube mill in Bahrain.

Mueller Industries will invest about \$5.5 million and will be the technical and marketing lead in return for 40-percent ownership of the joint venture, according to the Memphis, Tenn.-based manufacturer of copper and copper alloys.

“This mill will produce copper tube for the air conditioning and refrigeration markets and will have the capacity to support the surrounding Middle East and North Africa (MENA) region,” chief executive officer Greg Christopher said in a statement. “The MENA region is one of the fastest-growing markets for air conditioning and refrigeration.”

Mueller Industries, which has a network of operations in the United States, Canada, China, Mexico and the United Kingdom, produces tubing, fittings, valves, vessels and related items for piping systems, as well as rod, forgings, extrusions and various components for the building construction, appliance, defense, energy and automotive sectors.

GRACE LAVIGNE
GRACE.LAVIGNE@AMM.COM

Southwire appoints Stinson chief executive

NEW YORK — Southwire Co. LLC has appointed Rich Stinson president and chief executive officer effective Jan. 1 following the retirement of Stu Thorn, who led the wire and cable company for 16 years.

Stinson joined Southwire as president in mid-October, with the expectation that he would transition to chief executive officer (*amm.com*, July 10). He is Southwire’s fourth chief executive in its 65-year history.

Stinson has worked in industrial manufacturing for more than three decades, including his most recent role as president of electrical systems and services at New York-based Eaton Corp.

Carrollton, Ga.-based Southwire’s regional vice president of sales, Lee Griffin, said at the American Copper Council’s fall meeting that he expects demand for wire and cable to grow in the next five years (*amm.com*, Nov. 13).

GRACE LAVIGNE
GRACE.LAVIGNE@AMM.COM

MARKET PRICES

Prices are in cents per pound except as otherwise noted.

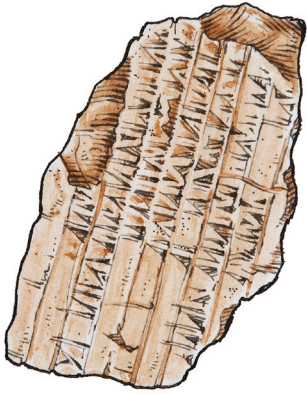
AMM Free Market	December 31	Revised	Prior Price
Copper cathode	218.05-218.55	12/31/15	219.20-219.70
Zinc	79.29-79.79	12/31/15	78.93-79.43
Aluminum	77.09-77.59	12/31/15	77.09-77.59
Nickel, melting	407.74-412.74	12/31/15	405.02-410.02
Comex copper settlement	212.55	12/31/15	213.70
No. 2 copper scrap	190.00*	12/31/15	191.00*
Silver, Handy and Harman (¢/troy oz)	1,385.50	12/31/15	1,387.00

* Nominal for spot sales

Copper complaints go back a long way

The world's oldest known complaint letter involved a dispute over copper, according to Australian scientist Karl Kruszelnicki.

In his book, *Dr. Karl's Short Back & Science*, published by Pan Macmillan Australia Pty Ltd., Kruszelnicki cites a roughly 3,750-year-old letter written in cuneiform (wedge marks on clay tablets) sent



by a copper merchant named Nanni to a smelter called Ea-nasir.

Nanni's letter, dating from about 1750 B.C., complains about the poor quality of copper ingots the smelter offered to his agent, the rude treatment of his agent, and the smelter not returning his money.

"You have put ingots which were not good before my messenger and said, 'If you want to take them, take them. If you do not want to take them, go away.'" Nanni wrote. "What do you take me for that you treat somebody like me with such contempt? I have sent as messengers gentlemen, like ourselves, to collect the bag with my money ... but you have treated me with contempt by sending them back to me empty-handed several times, and that through enemy territory."

It is not known exactly where either the merchant or the smelter were based, other than being in the territory of cuneiform writing: Mesopotamia and the Persian Gulf.

There may be other, earlier cuneiform complaints between merchants and dealers because, as Kruszelnicki notes, only 5 to 10 percent of the million or so excavated cuneiform tablets have been translated.

AMM STAFF
NEWSROOM@AMM.COM

Recycler charging for scrap metal drop-offs

NEW YORK — A recycler is charging its customers for scrap metal drop-offs at all four of its transfer sites, effective Jan. 1.

Brookings, Ore.-based Curry Transfer & Recycling Inc. (CTR) said it will charge \$11.50 each for bulky items and appliances, \$13.30 per cubic yard for scrap metal and \$10.20 for deposits under one yard, which is the company's standard gate fee for its transfer sites.

Office manager Candie Wilk said the decision was made in response to the fall in scrap metal demand and severe market factors faced by the entire industry. "We have seen a downtrend all of 2015 and we were hoping (to see) the market ... turn around, but we haven't," she told AMM.

Wilk said it is difficult to tell how the fees will affect scrap flow into CTR's collection sites, but the fact that the company operates in a small area limits the options that consumers have.

"We had some metal scrappers that were paying for metal, but now they are no longer paying nor accepting metals so I don't think it will affect flows that much," she added.

The company intends to monitor the market and to review its rates once the market improves, Wilk said, although this is unlikely to happen in the near term.

CTR's four Oregon transfer sites are in Brookings, Nesika Beach, Port Orford and Wridge Creek.

MEILING TOH
MEI.TOH@AMM.COM

Low scrap prices may squeeze Schnitzer margins

NEW YORK — Tighter profit margins from lower scrap prices, a stronger U.S. dollar and other factors have prompted some analysts to adjust their expectations for Schnitzer Steel Industries Inc.'s performance in its fiscal first quarter ended Nov. 30.

Great Falls, Mo.-based D.A. Davidson & Co. revised its forecast to a 9-cent-per-share net loss from an earlier estimate of earnings of 2 cents per share. "While our model had anticipated downward pressure in commodity prices (during Schnitzer's fiscal) first quarter, these declines were larger than forecast," analyst Brent Thielman wrote in a research note.

Scrap prices, based on an average of domestic benchmark grades, declined some 30 percent during the Portland, Ore.-based company's fiscal first quarter and about 50 percent calendar year to date, according to Thielman.

AMM assessments show that Midwest shredded auto scrap fell 31.5 percent to \$162.59 per gross ton from \$237.45 per ton over the course of Schnitzer's fiscal first quarter and was down 50.5 percent from \$328.47 per ton at the beginning of the year.

Cleveland-based KeyBanc Capital Markets Inc. also lowered its estimate to a 12-cent-per-share net loss from a 4-cent loss earlier, citing weaker volumes due to lower domestic steel mill capacity utilization and narrower spreads

for ferrous and nonferrous scrap exports as key factors.

"We are adjusting our forward expectations on Schnitzer to reflect a more-exaggerated gross margin squeeze for (its) auto and metal recycling (segment) in November, including lower nonferrous pricing, weaker steel metal spreads impacting the (fiscal) second quarter, and still-muted scrap export volume momentum with the exception of Turkey," Philip Gibbs, vice president and equity research analyst at KeyBanc, wrote in a research note.

Both firms expressed slightly less concern about market headwinds Schnitzer will face during its fiscal second quarter ending Feb. 28, predicting ferrous scrap headwinds would moderate amid climbing prices in December and January.

According to AMM assessments, shredded steel scrap rose about 1.7 percent during December.

While D.A. Davison does not expect macroeconomic difficulties to diminish in the near term, it pointed out that cost initiatives have proven effective in challenging environments and gave a nod to Schnitzer's cost-reduction efforts.

"We still expect improved financial performance over the course of fiscal 2016, albeit off low earning levels," Thielman said. One unavoidable dampener on profits will be tighter export ferrous spreads as the company covers forward-sold exports with newly purchased, and likely more expensive, material.

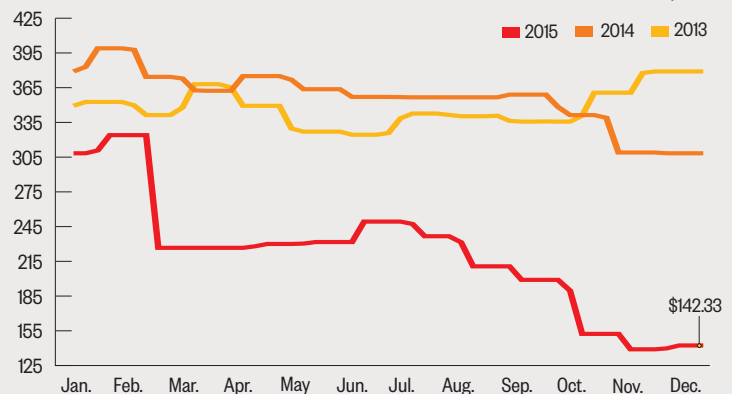
Schnitzer is scheduled to report its fiscal first-quarter results Jan. 7.

MEILING TOH
MEI.TOH@AMM.COM

AMM WEEKLY NO. 1 HEAVY MELT PRICE COMPOSITE

(price per gross ton)

UPDATED: DECEMBER 25, 2015



BASED ON NO.1 HEAVY MELTING STEEL AT PITTSBURGH, CHICAGO AND PHILADELPHIA.

SOURCE: AMM.

Ship recycler stays afloat while prices sink

NEW YORK — With commodity prices falling and some scrap prices cut by half since the beginning of 2015, the ship recycling industry has had to adjust like any other.

“We used to pay the government to take their vessels,” Nikhil Shah, president of ship recycler All Star Metals LLC (ASM), told *AMM*. “Now, they pay us.”

For example, ASM was paid about \$750,000 for each of two vessels it was awarded recently, he said. Before the downturn, the company paid in excess of \$2 million per ship.

Shah founded Brownsville, Texas-based ASM, along with All Star Shredding LLC, in 2003 and has grown the company into one of the largest ship recyclers in North America. When the company was acquired by Burnham, Ill.-based recycling giant Scrap Metal Services LLC in 2012, a future of growth and synergy in the scrap industry never looked brighter.

But the market had already started its descent as the U.S. dollar grew in strength and China’s booming economy slowed. Formerly flourishing recyclers started going out of business, including one of ASM’s neighboring competitors, Brownsville-based Esco Marine Inc. (*amm.com*, March 9).

“One of the biggest challenges of our business is the time horizon for each project is longer,” compounding the impact of a rapidly changing market with the long and laborious process of ship recycling, Shah said. “If you can’t constantly roll out your inventory, you’re not going to make it in this marketplace.”

The ex-*USS Forrestal*, the first aircraft carrier to be dismantled and recycled in the United States (*amm.com*, Oct. 23, 2013), was received by ASM in February 2014 but work on the ship was only completed in December, producing about 60,000 tons of ferrous and nonferrous scrap.

While ASM has a steady flow of government, U.S. maritime and commercial ships coming in, as well as a steady flow of materials being shipped out, the company would still benefit from a

bounceback in commodity-based industries, both in the United States and abroad.

“Every commodity has gone through its struggle,” Shah said. “This is one of the rare times we’ve seen both ferrous and nonferrous take a beating—it’s usually one or the other. It’s a global issue, with some factors beyond our control.”

While a greater demand for steel and other metals would bring scrap, and all commodities, along for the ride, Shah said that stability is also needed in the export market. The United States is currently a net exporter of scrap, but an influx of finished steel product imports is shifting the balance in the wrong direction, he said, and a weaker U.S. dollar may be the cure for the seaborne market.

Regardless of a return by commodities like scrap to their glory days, Shah remains confident that he is working in an industry that is recession-proof. “I think the ship recycling industry is one that will be around forever,” he said.

DAN ISRAELI
DAN.ISRAELI@AMM.COM

Scrap operation, owner found in contempt of court

NEW YORK — An upstate New York scrap metal operation has been found in civil and criminal contempt of court for failing to address alleged environmental contamination at its former location.

East Side Used Auto Parts Inc. and its owner, James Marro, ignored a 2011 court-ordered settlement to remedy environmental damage caused by allowing toxic chemicals to contaminate the air and nearby groundwater, according to the office of state attorney general Eric T. Schneiderman.

The business relocated to Fort Ann from Kingsbury, both in Washington County, and was renamed Eastside Metals & Recycling Corp. after Schneiderman obtained a court order in 2009 halting all operations at the Kingsbury site (*amm.com*, Aug. 3).

“Through reckless and illegal conduct, the owners of this junkyard created dangerous conditions in the heart of a

residential neighborhood, then ignored their obligations to the court—and to the community—to remedy them,” Schneiderman said in a statement.

In granting a motion filed by the state attorney general, the Supreme Court of New York ordered the defendants to complete the cleanup at the Kingsbury site and pay a \$100,000 penalty as well as the plaintiffs’ costs and expenses. The court further imposed a 30-day jail sentence on Marro, which will be suspended as long as he complies with the court order.

The scrap and auto salvage yard was repeatedly cited by the state’s Department of Environmental Conservation (DEC) from 2003 to 2010 for allegedly polluting the environment, according to the state attorney general’s office.

While the business has not operated out of the Kingsbury site for about five years, it is still the defendants’ legal obligation to fully comply with the court order, a spokesman for the attorney general’s office told *AMM*.

Marro, as well as an attorney for Marro and East Side Used Auto Parts, could not be reached for comment.

DAN ISRAELI
DAN.ISRAELI@AMM.COM

WEEKLY SCRAP COMPOSITE PRICES			
Averages calculated each Friday, based on data effective from the previous Friday to Thursday. Prices are in US\$/gross ton.			
SHREDDED SCRAP			
— calculation date —			
	12/25/15	Prior Wk	Year Ago
Alabama	\$170.00	\$170.00	\$332.00
Chicago	160.00	160.00	325.00
Philadelphia	180.00	180.00	310.00
Pittsburgh	170.00	170.00	341.00
Composite	\$170.00	\$170.00	\$327.00
NO. 1 BUSHELING			
— calculation date —			
	12/25/15	Prior Wk	Year Ago
Chicago	\$160.00	\$160.00	\$351.00
Cleveland	170.00	170.00	384.00
Pittsburgh	162.00	162.00	371.00
Composite	\$164.00	\$164.00	\$368.67
NO. 1 HEAVY MELT			
— calculation date —			
	12/25/15	Prior Wk	Year Ago
Chicago	\$130.00	\$130.00	\$318.00
Philadelphia	155.00	155.00	290.00
Pittsburgh	142.00	142.00	317.00
Composite	\$142.33	\$142.33	\$308.33

**American
Metal Market
EVENTS**

9th Annual
**Steel Tube
+ Pipe**
Conference



8-10 March, 2016

Doubletree Houston Greenway Plaza Hotel, Houston, USA

8th Steel Tube + Pipe Conference 2015

welcomed

416

delegates

from

235

companies

based in

20

countries

**Where the
Market Talks**

Key event features:

- The latest with anti-dumping trade cases
- How to survive in an environment of lower prices
- New projects and capacity
- The latest trends and outlook for the American oil and gas industry
- Status and potential impact of lifting crude oil export ban
- What is refracking and how could it impact the STP community?
- Natural gas projects and the potential for line pipe consumption
- What are the real statistics on current inventory levels in the USA?

**“The best convention related to the steel
and pipe market”**

Jorge Morales, Senior Planning Analyst, **Interpipe**

**Register before
December 4, 2015
& SAVE
\$400**

W: www.amm.com/events/ammstp E: marketing@amm.com T: +1 212 901 3828

CALENDAR OF EVENTS

JANUARY

- Jan. 18 Aluminum Anodizers Council: Winter Meetings; Loews Hotel, New Orleans; www.anodizing.org
- Jan. 20-21 Metals Service Center Institute: Tubular Products Division Conference; Rancho Bernardo Inn, San Diego; www.mscli.org
- Jan. 27-29 *American Metal Market*: 21st Mexican Steel Forum; InterContinental Presidente, Cancun, Mexico; www.amm.com/events

FEBRUARY

- Feb. 1-4 Metal Construction Association: Winter Meeting; Loews Don Cesar Hotel, St. Pete Beach, Fla.; www.metalconstruction.org
- Feb. 3 International Wire and Machinery Association: Annual General Meeting; Mere Resort and Spa, Knutsford, England; www.iwma.org
- Feb. 10-11 Committee on Pipe and Tube Imports: Winter Membership Meeting; Westin Kierland Resort and Spa, Scottsdale, Ariz.
- Feb. 14-17 American Architectural Manufacturers Association: 79th Annual Conference; Hyatt Regency Resort, Huntington Beach, Calif.; www.aamanet.org
- Feb. 17-18 American Architectural Manufacturers Association: Western Region Winter Summit; Hyatt Regency Resort and Spa, Huntington Beach, Calif.; www.aamanet.org
- Feb. 21-24 International Zinc Association: International Zinc Conference and Zinc Oxide Conference; Westin Kierland Resort and Spa, Scottsdale, Ariz.; www.zinc.org
- Feb. 21-24 North American Die Casting Association: Die Casting Executive Conference; Grande Beach Resort, Naples, Fla.; www.diecasting.org
- Feb. 22-24 American Wire Producers Association: Annual Meeting; Vinoy Renaissance Resort and Golf Club, St. Petersburg, Fla.; www.awpa.org
- Feb. 24-26 Fabricators and Manufacturers Association: Annual Meeting; Paradise Point Resort and Spa, San Diego; www.fmanet.org
- Feb. 25-26 Metals Service Center Institute: Carbon Products Division Conference; Omni Resort at Championsgate, Orlando, Fla.; www.mscli.org
- Feb. 25-27 National Association of Steel Pipe Distributors: Annual Convention; Hotel Del Coronado, San Diego; www.naspd.com
- Feb. 29-March 2 *Metal Bulletin*: 22nd Bauxite & Alumina Conference; Conrad Hotel, Miami; www.metalbulletin.com

MARCH

- March 1-3 *Metal Bulletin*: China Iron Ore Conference; Grand Millennium Hotel, Beijing; www.metalbulletin.com
- March 2-5 Association for Manufacturing Technology: Manufacturing Meeting; JW Marriott Desert Springs Resort and Spa, Palm Desert, Calif.; www.amtonline.org
- March 6-9 Investment Recovery Association: Seminar and Trade Show; Royal Sonesta, Houston; www.invrecovery.org
- March 8-10 *American Metal Market*: 9th Steel Tube and Pipe Conference; Doubletree Greenway Plaza, Houston; www.amm.com/events
- March 8-10 Association for Iron and Steel Technology: Making, Shaping and Treating of Steel Seminar; Embassy Suites, Huntsville, Ala.; www.aist.org
- March 9-12 Precision Metalforming Association: Leadership Conference and Annual Meeting; JW Marriott Desert Springs Resort and Spa, Palm Desert, Calif.; www.pma.org

- March 10 Metals Service Center Institute: Specialty Metals Division Conference; Hyatt Regency Hill Country Resort and Spa, San Antonio; www.mscli.org
- March 17-19 Aluminum Extruders Council: Annual Meeting and Leadership Conference; La Cantera Hill Country Resort, San Antonio; www.aec.org
- March 22-24 Fabricators and Manufacturers Association, Precision Metalforming Association and Society of Manufacturing Engineers: FabTech Canada; Toronto Congress Centre, Toronto; www.fabtechcanada.com
- March 22-24 *Metal Bulletin*: 17th Asian Ferro-Alloys Conference; Shangri-La Hotel, Singapore; www.metalbulletin.com
- March 30-31 *Metal Bulletin*: 8th World Lead Conference; Hilton Grand Place, Brussels; www.metalbulletin.com
- March 30-April 2 Association of Steel Distributors: Spring Conference; Ritz-Carlton Golf Resort, Naples, Fla.; www.steeldistributors.org

APRIL

- April 3-7 Institute of Scrap Recycling Industries: Annual Convention and Exposition; Mandalay Bay Resort and Casino, Las Vegas; www.isri.org
- April 6-8 Copper and Brass Servicenter Association: 65th Annual Convention; Omni Oceanfront Resort, Hilton Head Island, S.C.; www.copper-brass.org
- April 13-14 Powder Coating Institute: Conference and Tabletop Exhibits; Georgia International Convention Center, College Park, Ga.; www.powdercoating.org
- April 13-15 American Institute of Steel Construction: Steel Conference; Gaylord Palms Convention Center, Orlando, Fla.; www.aisc.org
- April 13-16 National Association of Pipe Coating Applicators: Convention; Marriott Harbor Beach Resort and Spa, Fort Lauderdale, Fla.; www.napca.com
- April 15-18 Investment Casting Institute: Spring Management Meeting; Loews Ventana Canyon, Tucson, Ariz.; www.investmentcasting.org
- April 16-19 American Foundry Society: CastExpo and 120th Metalcasting Congress; Minneapolis Convention Center, Minneapolis; www.afsinc.org
- April 16-20 National Coil Coating Association: Annual Meeting; Portofino Bay Hotel, Orlando, Fla.; www.coilcoating.org
- April 17-20 Associated Wire Rope Fabricators: Spring General Meeting; Hyatt Regency, New Orleans; www.awrf.org
- April 21 American Tin Trade Association: Annual Meeting; Water Club, New York; www.tintrade.org
- April 22-24 National Association of Architectural Metal Manufacturers: Spring Meeting; Kiawah Island Golf Resort, Kiawah Island, S.C.; www.naamm.org
- April 27-29 Steel Erectors Association of America: 44th Annual National Convention and Trade Show; Embassy Suites Golf Resort and Spa, Concord, N.C.; www.seaa.net
- April 30-May 1 American Coke and Coal Chemicals Institute: Spring Meeting; Hyatt Regency Coconut Point, Bonita Springs, Fla.; www.accci.org

MAY

- May 1-3 Battery Council International: 128th Convention and Power Mart Expo; Marriott Rivercenter, San Antonio; www.batteryCouncil.org
- May 2-6 Aluminum Extruders Council: 11th International Aluminum Extrusion Technology Seminar; Hyatt Regency, Chicago; www.aec.org
- May 3-5 Society of Manufacturing Engineers: Mfg4 Convention; Connecticut Convention Center, Hartford, Conn.; www.sme.org

For inclusion in the Calendar of Events, please email details to samuel.edsell@amm.com

AMM STEEL PRICES

PRICES EFFECTIVE THURSDAY, DECEMBER 31, 2015

STAINLESS STEELS

Market prices, f.o.b. mill, by grade, not including extra charges for size, finish, temper, packaging, shipping and other specifications.

COILED PLATE

Plate produced on a continuous mill.

Grade	US\$/cwt
304	80.50
304L	83.50
316	110.00
316L	110.00

UNCOILED PLATE

Plate produced on a plate mill.

Grade	US\$/cwt
304	179.00
304L	179.00
316L	225.00

BAR

Smooth-turned round bar, 1" diameter, mostly in 10,000-lb quantities.

Grade	US\$/cwt
303	118.00
304	114.00
316	154.00
416	101.00
17Cr4Ni	192.00

COLD-ROLLED SHEET

Grade	US\$/cwt
304	91.50
304L	94.50
316L	117.00

NA--Not available

To become a price contributor see "Metal Exchanges" page.

IMPORT PRICES

Port of Houston prices, c.i.f. port, in US\$/short ton.

Reinforcing bar*	\$318-\$322
Wire rod (low carbon)	\$331-\$349
Merchant bar	\$500-\$540
Medium sections	\$500-\$520
Hot-rolled coil	\$320-\$340
Plate	\$390-\$430
Cold-rolled coil	\$400-\$460
Hot-dipped galvanized, 0.012-0.015", G30	\$600-\$640
Hot-dipped galvanized, 0.019", G60	\$580-\$610

*The price for import rebar represents a price paid by a trader to a foreign mill. It does not represent a delivered duty paid price from the port to a domestic buyer.

WORLD EXPORT PRICES

Prices in US\$/tonne. China, Turkey and India prices are f.o.b. main port. CIS prices are f.o.b. Black Sea.

China export cold-rolled coil (rev. 12/31/15)	\$300-\$305
China export galvanized coil (rev. 12/31/15)	\$375-\$380
China export wire rod (rev. 12/31/15)	\$270-\$280
Turkey export rebar (rev. 12/31/15)	\$330-\$340
Turkey export wire rod (rev. 12/31/15)	\$345-\$360
CIS export hot-rolled coil (rev. 12/28/15)	\$245-\$260
CIS export cold-rolled coil (rev. 12/28/15)	\$315-\$325
India export galvanized coil (rev. 12/31/15)	\$470-\$475

OIL COUNTRY TUBULAR GOODS

Average monthly market prices per ton from distributors surveyed in the Houston area by Pipe Logix, Inc.

TUBING	Nov \$/ton
Carbon - annealed ERW	\$1,077
Carbon - seamless	\$1,305
N80 - ERW	\$1,323
N80 - seamless	\$1,615
CASING	
Carbon - annealed ERW	\$878
Carbon - seamless	\$1,044
N80 - ERW	\$1,113
N80 - seamless	\$1,299

SHEETS

Midwest market prices per hundredweight, f.o.b. mill.

Hot-rolled	\$18.50
Cold-rolled (Class I)	\$24.50
Hot-dipped galvanized (base price)	\$25.00
Hot-dipped galvanized*	\$28.50
Galvalume	\$26.50
Electroalvanized	\$31.00
Aluminized (Type 1)	\$30.50
Motor lamination	\$28.00

*The price for hot-dip galvanized sheet represents a base price plus a G90 coating on material 0.040 inch (1 millimeter) thick.

PLATE

Market prices per hundredweight, f.o.b. mill.

CARBON GRADE PLATE

National mills	
Cut-to-length	\$23.00
Coiled	\$20.25
STRIP MILL PLATE	
48-inches	\$18.75
60-inches	\$19.25
72-inches	\$19.50

ALLOY PLATE

National mills	\$41.75
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PIPE AND TUBE

Market prices in US\$/short ton.

Domestic	
OCTG J55 casing	\$850
Line pipe X42	\$780
Standard pipe A53 Grade B	\$750
OCTG seamless casing P110	\$1,400
Import	
OCTG J55 casing	\$680
Line pipe X42	\$520
Standard pipe A53 Grade B	\$560
OCTG seamless casing P110	\$1,100

BAR

Market prices per hundredweight, f.o.b. mill.

MERCHANT PRODUCTS

(base prices)

Reinforcing bar, Grade 60, No. 5	\$24.00-\$25.00
2 x 2 x 1/4" angle	\$28.65
3 x 3 x 1/4" angle	\$29.10
8 x 11.5 channels	\$28.35
1/2 x 4" flat	\$28.85

COLD-FINISHED

1" round, 1018 (carbon)	\$45.00
1" round, 12L14 (carbon)	\$51.00
1" round, 4140 (alloy)	\$62.50

HOT-ROLLED

(special bar quality)

1" round, 1000 series (carbon)	\$31.00
1" round, 4100 series (alloy)	\$38.00

ROD

Market prices per hundredweight, f.o.b. mill.

Mesh quality low carbon	\$20.00-\$21.50
Industrial quality low carbon	\$21.00-\$22.50
High carbon	\$24.00-\$25.00
Cold-heading quality	\$26.00-\$27.00

BEAMS

Market prices per hundredweight, f.o.b. mill.

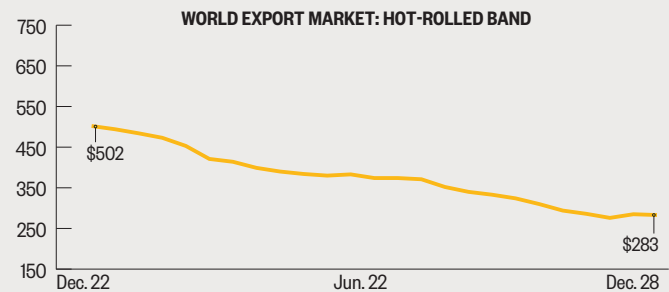
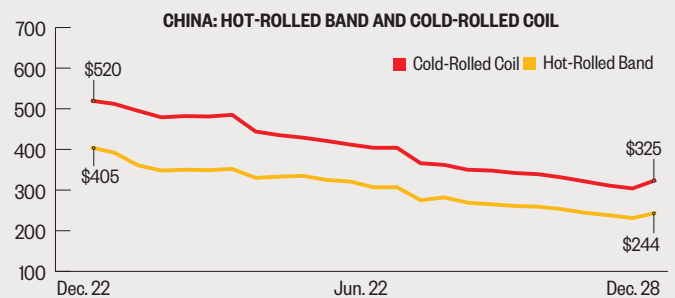
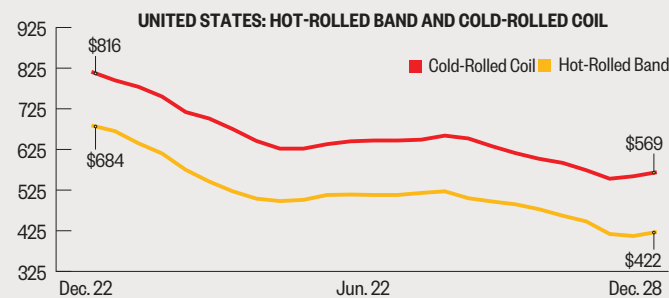
W8 x 8	\$34.00-\$36.00
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STRUCTURAL TUBING

Market prices in \$/short ton

ASTM A500 Grade B	\$580.00-\$600.00
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STEELBENCHMARKER PRICING 2014-2015 (dollars per tonne)



STEELBENCHMARKER IS A JOINT VENTURE OF WORLD STEEL DYNAMICS INC. AND AMM/METAL BULLETIN THAT WAS OFFICIALLY LAUNCHED IN APRIL 2006. PRICES ARE PUBLISHED TWICE MONTHLY. STEELBENCHMARKER IS DESIGNED TO PROVIDE A RELIABLE SET OF BENCHMARK PRICES FOR USE BY PARTICIPANTS IN THE STEEL INDUSTRY AND OTHERS WITHOUT REQUIRING DISCLOSURE OF ACTUAL TRANSACTION PRICES.

NOTE: PRICES FOR THE UNITED STATES ARE F.O.B. MILL, EAST OF MISSISSIPPI; CHINA IS EX-WORKS; AND WORLD EXPORT MARKET IS F.O.B. PORT OF EXPORT. SOURCE: WORLD STEEL DYNAMICS INC., ENGLEWOOD CLIFFS, N.J.

AMM NONFERROUS SCRAP PRICES

PRICES EFFECTIVE THURSDAY, DECEMBER 31, 2015

ESTIMATED DEALER BUYING PRICES, IN ¢/LB. DELIVERED TO YARD. MONTREAL AND TORONTO PRICES ARE IN CANADIAN CURRENCY

COPPER (rev. 12/31/15)	Atlanta	Boston	Buffalo	Chicago	Cincinnati	Cleveland	Detroit	Houston	L.A.	N.Y.	Philly	P'burgh	S.F.	St. Louis	Montreal	Toronto
No. 1 heavy copper and wire	171-181	154-164	173-183	165-180	180-195	170-180	160-175	166-176	184-194	153-168	167-177	175-190	166-181	182-192	240-250	213-228
NO. 2 HEAVY COPPER AND WIRE	163-173	141-151	159-169	161-176	171-186	156-171	156-171	152-162	171-181	144-159	158-173	171-186	152-162	173-183	217-227	199-209
Light copper	138-153	131-141	134-144	136-151	146-161	136-146	136-151	140-150	145-155	129-144	133-148	131-146	129-139	151-161	197-207	174-189
RED BRASS SOLIDS	147-157	145-155	153-163	153-163	148-158	153-163	148-158	150-155	170-180	142-152	138-148	153-163	167-177	163-173	160-170	155-165
Red brass turnings, borings	132-142	110-120	98-108	128-138	123-133	113-123	128-138	105-115	131-141	123-133	128-138	123-133	125-135	148-158	110-120	105-115
Cocks and faucets	100-110	.....	111-121	116-126	106-116	106-116	111-121	111-121	119-129	106-116	111-121	111-121	120-130	136-146	155-165	140-150
Brass pipe	110-120	113-123	116-126	121-131	126-136	126-136	131-141	121-131	144-154	121-131	121-131	116-126	140-150	136-146	155-165	.....
YELLOW BRASS SOLIDS	118-128	91-101	109-119	109-119	114-124	104-114	102-112	107-117	137-147	104-114	119-129	109-119	126-136	124-134	143-153	136-146
Mixed yellow brass turnings, borings	65-75	73-83	71-81	81-91	81-91	81-91	81-91	91-101	99-109	66-76	61-71	81-91	103-113	96-106	95-105	85-90
Yellow brass rod ends	115-125	113-123	116-126	111-121	121-131	116-126	111-121	124-134	127-137	116-126	116-126	116-126	133-143	139-149	163-173	.....
Yellow brass rod turnings	110-120	103-113	106-116	106-116	121-131	111-121	111-121	116-126	134-144	116-126	116-126	116-126	123-133	124-134	155-165	.....
70-30 brass clips	116-126	119-129	117-127	117-127	122-132	117-127	132-142	137-147	140-150	117-127	122-132	122-132	129-139	155-165	156-166	.....
AUTO RADIATORS (UNWEATED)	122-132	110-120	128-138	118-128	128-138	113-123	113-123	111-121	144-154	111-121	126-136	118-128	130-140	133-143	130-140	108-118
High-grade bronze gears	131-141	149-159	152-162	142-152	142-152	142-152	137-147	152-162	160-170	147-157	147-157	142-152	151-161	.....	161-171	151-161
High-grade low lead bronze	121-131	.....	.....	137-147	132-142	132-142	147-152	147-152	150-160	.....	.....	132-142	151-161	142-152	151-161	.....
Manganese bronze solids	111-121	124-134	122-132	117-127	137-147	127-137	122-132	127-137	140-150	117-127	117-127	127-137	136-146	137-147	154-164	144-154
Miscellaneous nickel-"silver" solids	116-126	124-134	127-137	122-132	117-127	132-142	117-127	137-147	135-145	127-137	127-137	132-142	131-141	137-147	154-164	.....
Manganese bronze turnings	71-81	69-79	77-87	82-92	82-92	87-97	77-87	82-92	85-95	67-77	67-77	87-97	81-91	75-85	99-109	89-99

ALUMINUM (rev. 12/31/15)	Atlanta	Boston	Buffalo	Chicago	Cincinnati	Cleveland	Detroit	Houston	L.A.	N.Y.	Philly	P'burgh	S.F.	St. Louis	Montreal	Toronto
Segregated low copper clips	41-46	39-42	43-46	41-43	37-42	37-40	39-42	31-33	48-52	33-36	38-40	39-42	42-43	47-48	50-52	48-50
Mixed low copper clips	39-44	35-37	41-43	37-38	36-38	34-37	37-39	27-30	42-45	30-33	36-41	36-39	40-41	46-47	48-50	45-47
Mixed clips	36-38	36-37	41-43	35-39	36-39	35-37	35-40	28-31	44-48	30-33	33-38	37-40	40-41	45-47	47-48	43-45
Aluminum borings, turnings, clean and dry	19-24	19-22	15-20	19-24	18-23	17-22	21-26	11-16	24-29	14-19	16-21	19-24	19-21	27-32	22-26	20-24
Old aluminum, sheet and cast	35-40	34-36	37-38	38-43	37-42	35-38	35-40	32-33	44-47	29-32	35-38	38-43	36-38	40-42	41-43	41-43
Used beverage cans, clean and dry	40-43	30-32	33-34	36-41	36-41	34-36	31-36	38-43	42-44	40-42	39-42	36-41	35-38	44-46	34-36	34-36
Industrial castings	35-38	34-35	33-34	37-42	.....	36-41	39-44	31-32	.....	35-38	35-39	.....	.....	.....	43-45	41-43
63S aluminum solids	47-49	49-50	49-50	47-52	.....	46-51	47-52	41-45	.....	.....	44-49	.....	.....	54-59	60-62	59-61
75S aluminum clips	34-37	31-33	35-37	35-40	.....	32-37	39-44	28-29	52-55	.....	33-36	.....	44-47	42-46	44-46	42-44
75S borings, turnings, as is	21-24	.....	.....	32-37	.....	22-27	27-32	15-18	27-32	.....	21-24	.....	14-17	.....	27-29	25-27
Aluminum utensils	36-40	.....	36-37	26-30	.....	30-35	32-37	27-29	.....	30-33	.....	.....	.....	.....	32-34	34-36
Painted aluminum siding	35-40	33-35	39-40	33-38	.....	34-39	34-39	29-32	42-45	.....	29-33	.....	34-36	41-44	44-46	42-44
Litho sheets	51-56	47-50	.....	44-49	.....	.....	44-49	44-48	51-56	.....	.....	.....	46-51	55-58	.....	.....

LEAD (rev. 12/31/15)	Atlanta	Boston	Buffalo	Chicago	Cincinnati	Cleveland	Detroit	Houston	L.A.	N.Y.	Philly	P'burgh	S.F.	St. Louis	Montreal	Toronto
HEAVY SOFT LEAD	31-36	39-42	38-43	37-42	.....	36-41	33-37	33-38	.....	33-38	35-40	.....	30-35	37-41	42-47	37-42
Mixed hard lead	29-32	.....	39-41	35-37	.....	37-41	34-38	34-38	.....	.....	.....	.....	31-35	39-43	39-40	.....
Undrained, whole old batteries	.....	.....	15-17	.....	.....	14-19	.....	.....	.....	11-13	.....	.....	14-16	11-15	.....	23-24
WHEEL WEIGHTS	21-25	19-21	26-30	14-18	.....	19-23	19-23	22-26	.....	14-18	20-23	16-20	14-18	.....	29-33	.....

ZINC (rev. 12/31/15)	Atlanta	Boston	Buffalo	Chicago	Cincinnati	Cleveland	Detroit	Houston	L.A.	N.Y.	Philly	P'burgh	S.F.	St. Louis	Montreal	Toronto
New zinc die cast	25-30	20-22	25-30	27-31	.....	.....	27-32	25-29	28-33	24-29	.....	.....	27-32	28-33	24-29	.....
OLD ZINC DIE CAST	19-24	21-23	24-29	20-25	.....	.....	20-25	26-28	29-34	23-28	.....	.....	25-30	25-30	23-28	24-29
Old zinc scrap	19-24	21-23	21-23	20-25	.....	.....	20-25	24-26	24-29	23-28	.....	.....	24-29	25-30	20-25	.....
Zinc die cast automotive grilles	.....	25-30	21-26	28-33	.....	.....	28-33	22-26	.....	.....	.....	.....	.....	28-34	29-35	.....

NICKEL (rev. 12/31/15)	Atlanta	Boston	Buffalo	Chicago	Cincinnati	Cleveland	Detroit	Houston	L.A.	N.Y.	Philly	P'burgh	S.F.	St. Louis	Montreal	Toronto
New nickel clips and solids	290-340	265-315	265-315	290-340	290-340	290-340	290-340	290-340	265-315	290-340	290-340	290-340	265-315	265-315	265-315	265-315
Nickel turnings	240-290	215-265	215-265	240-290	240-290	240-290	240-290	240-290	.....	.....	.....	240-290	.....	.....	215-265	.....
New nickel-copper alloy (e.g., Monel®) clips and solids	190-240	160-210	160-210	190-240	190-240	190-240	190-240	190-240	160-210	190-240	190-240	190-240	160-210	160-210	.....	.....
Nickel-copper alloy (e.g., Monel®) turnings and shavings	145-190	115-160	115-160	145-190	145-190	145-190	145-190	145-190	115-160	145-190	145-190	145-190	115-160	.....	.....	.....
Nickel-copper alloy (e.g., Monel®) castings	165-200	145-180	145-180	165-200	165-200	165-200	165-200	165-200	145-180	.....	165-200	165-200	.....	145-180	.....	.....
Nickel-chrome-iron alloy (e.g., Inconel®) solids	215-230	185-200	185-200	215-230	215-230	215-230	215-230	215-230	185-200	215-230	215-230	215-230	185-200	185-200	185-200	185-200

Monel® and Inconel® are registered trademarks of Huntington Alloys Corp.

SCRAP		Estimated buying prices (carload lots, delivered buyers' works) In ¢/lb except as otherwise noted.	SMELTERS' LEAD SCRAP Buying prices heavy soft lead (cwt), including delivery to smelter (rev. 12/29/15)	Turnings, clean and dry High grade 47.00-49.00 Mixed grade (max. 5% Zn) 41.00-43.00 Aluminum-copper radiators 100.00-105.00 Nonferrous auto shred (90% alum.) * 61.00-63.00 * Unmixed full truckload, "twitch" grade
BRASS MILL SCRAP	No. 1 copper	210.50*	Scrap lead \$62.00-\$64.00 Remelt lead \$65.00-\$67.00 Whole batteries \$28.00-\$30.00 Cable lead \$65.00-\$67.00	
REFINERS' COPPER SCRAP	No. 1 copper	206.00*		
BRASS INGOT MAKERS' SCRAP (rev. 12/31/15)	No. 2 copper	190.00*		
SECONDARY SMELTERS' ALUMINUM SCRAP Buying prices delivered to Midwest smelters in full truckloads containing several grades (rev. 12/31/15)	Copper		New zinc clippings 53.00-55.00 Old zinc (clean) 40.00-42.00 Galvanizers' dross 52.00-54.00	DOMESTIC ALUMINUM PRODUCERS Buying prices for processed used aluminum cans in carload lots, f.o.b. shipping point (rev. 12/31/15) Used beverage can scrap 61.00-63.00
SMELTERS' ZINC SCRAP (rev. 12/29/15)	No. 1 bare bright	208.00-211.00*		MILLS, SPECIALTY CONSUMERS' BUYING PRICES (rev. 12/31/15)
ALUMINUM SCRAP	No. 1	203.00-206.00*		Segregated low copper alloy clips
	No. 2	185.00-188.00*		5052 65.00-67.00 3105 59.00-61.00
	Light copper	174.00-178.00*		Mixed low copper alloy clips 58.00-60.00 Painted siding 55.00-57.00
	No. 1 comp. solids (rev. 12/30/15)	155.00-160.00		
	Comp., borings, turnings (rev. 12/30/15)	154.00-158.00		
	Radiators (rev. 12/30/15)	133.00-140.00		
	Yellow brass solids (rev. 12/30/15)	125.00-130.00		
* Nominal for spot sales.				

Scrap Prices Today
Cooper scrap price changes were made for: Atlanta, Boston, Buffalo, Chicago, Cincinnati, Cleveland, Detroit, Houston, Los Angeles, New York, Philadelphia, Pittsburgh, San Francisco, St. Louis, Montreal, Toronto

Aluminum scrap prices were reviewed for: Los Angeles, San Francisco,

Aluminum scrap price changes were made for: Atlanta, Boston, Buffalo, Chicago, Cincinnati, Cleveland, Detroit, Houston, Los Angeles, New York, Philadelphia, Pittsburgh, San Francisco, St. Louis, Montreal, Toronto

Lead scrap price changes were made for: Atlanta, Boston, Buffalo, Chicago, Cleveland, Detroit, Houston, New York, Philadelphia, Pittsburgh, San Francisco, St. Louis, Montreal, Toronto

Zinc scrap price changes were made for: Atlanta, Boston, Buffalo, Chicago, Detroit, Houston, Los Angeles, New York, San Francisco, St. Louis, Montreal, Toronto

Nickel scrap prices were reviewed for: Atlanta, Boston, Buffalo, Chicago, Cincinnati, Cleveland, Detroit, Houston, Los Angeles, New York, Philadelphia, Pittsburgh, San Francisco, St. Louis, Montreal, Toronto

To become a price contributor see "Metal Exchanges" page.

AMM SCRAP IRON AND STEEL PRICES

PRICES EFFECTIVE THURSDAY, DECEMBER 31, 2015

NOTICE

Due to changes in the dynamics of the Chicago consumer buying price since its inception, AMM is proposing to launch a "Greater Chicago area" market that would run in addition to the consumer price in Chicago. This would be a delivered price in gross tons and include mills that were not constructed when the original Chicago index was created. It could include mills in Indiana, Iowa and other areas that buy material out of Chicago. Please send feedback to lgordon@amm.com.

Scrap Prices Today

Ferrous scrap price changes were made for these cities: **None**

CONSUMER BUYING PRICES

	Estimated domestic consumer buying prices in US\$/gross ton; delivered mill price.				(a) Appraisal price		NA--Not available			†Canadian currency; in net tons			
	Alabama	Ark/Tenn Border	Chicago	Cincinnati	Cleveland	Detroit	N. Carolina/Virginia	Philadelphia	Pittsburgh	South Carolina	Youngstown	Hamilton, Ontario	Composites
DATE REVIEWED:	12/04/15	12/04/15	12/10/15	12/07/15	12/04/15	12/03/15	12/04/15	12/03/15	12/04/15	12/04/15	12/07/15	12/07/15	.....
NO. 1 HEAVY MELT	155	150	130	150	145	151	155	155	142	155	150(a)	110	142.33
No. 2 heavy melt	145	.....	125	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
No. 1 bundles	153	160	150	160	172	156	.....	160	142	.....	.....	162	.....
No. 2 bundles *	.....	115	105	.....	.....	.....	.....	77	29(a)	.....	20(a)	.....	.....
No. 1 busheling	173	165	160	170	170	161	165	170	162	165	170	148	164.00
No. 1 industrial bundles	.....	.....	.....	.....	.....	.....	.....	.....	165	.....	.....	.....	.....
Shredded auto scrap	170	170	160	165	177	165	175	180	170	175	175	145	170.00
MACHINE SHOP TURNINGS	30	80	63	65	25(a)	83	40	110	45(a)	40	.....	.....	.....
Cast iron borings	.....	.....	63(a)	.....	.....	.....	.....	.....	25(a)	.....	.....	.....	.....
Cut structural/plate, 2' max	.....	.....	240(a)	.....	.....	.....	.....	240(a)	.....	.....	.....	.....	.....
Cut structural/plate, 3' max.	185	.....	.....	.....	.....	.....	.....	180	177	.....	.....	.....	.....
Cut structural/plate, 5' max.	160	160	160	165	165	165	165	170	164	165	165(a)	129	.....
Foundry steel, 2' max.	.....	.....	150	.....	117	180	.....	220(a)	110	.....	145(a)	.....	.....
Cupola cast	.....	.....	185	.....	40	230(a)	.....	168(a)	145	.....	.....	.....	.....
CLEAN AUTO CAST	.....	.....	220(a)	.....	205	255(a)	.....	203(a)	200(a)	.....	.....	.....	.....
Unstripped motor blocks	.....	.....	140	.....	225	.....	.....	158(a)	265	.....	.....	.....	.....
Heavy breakable cast	.....	.....	130	.....	25	.....	.....	108(a)	105	.....	.....	.....	.....
Drop broken machinery cast	.....	.....	200	.....	153	.....	.....	213	.....	.....	.....	.....	.....
Rail crops, 2' max.	.....	.....	195	.....	288	.....	.....	248	255	.....	.....	.....	.....
Random rails	.....	.....	150(a)	.....	.....	.....	.....	130	175	.....	.....	.....	.....
Steel car wheels	.....	.....	170	.....	190	.....	.....	.....	.....	.....	.....	.....	.....
Rerolling rails	.....	.....	170(a)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
STEEL (TIN) CAN BUNDLES	.....	.....	140	.....	150	145	.....	.....	127	.....	.....	.....	.....

* Shredders may also be considered consumers for this grade

AMM INDEXES

Ferrous Scrap Export Index (\$/tonne, evaluated 12/30/15)	
HMS 1&2 (80:20) East Coast (f.o.b. New York)	168.00
HMS 1&2 (80:20) West Coast (f.o.b. Los Angeles)	179.50
Shredded Steel Scrap, East coast (f.o.b New York)	173.00
Midwest Ferrous Scrap Index (\$/gross ton, evaluated 12/10/15)	
No. 1 heavy melt	139.73
No. 1 busheling	161.17
Shredded steel scrap	165.33
MB Iron Ore Index (\$/tonne, evaluated 12/31/15)	
MBIO Index	43.57

CONSUMER BUYING PRICE TREND

Estimated trends in US\$/gross ton, from prior month		
	Houston	Seattle/Portland
DATE REVIEWED:	12/08/15	12/04/15
No. 1 heavy melt	20	5
No. 1 busheling	20	.....
Shredded auto scrap	20	5
Machine shop turnings	15	5
Cut structural/plate, 5' max	20	5

To become a price contributor see "Metal Exchanges" page.

DEALER SELLING PRICES

Estimated prices in US\$/gross ton, shipping point dealer yard					†Canadian currency; in net tons	
	Atlanta	Buffalo	Houston	St. Louis	Montreal†	
DATE REVIEWED:	12/04/15	12/03/15	12/08/15	12/07/15	12/07/15	
No. 1 heavy melt	140	110	125	130	95	
No. 1 bundles	.....	.....	.....	145	.....
No. 1 busheling	155	148	145	150	105	
Shredded auto scrap	160	153	155	157	230	
Machine Shop Turnings	35	28	60	60	20	
Cut structural/plate, 5' max.	150	127	150	138	105	

EXPORT YARD BUYING PRICES

Estimated prices an export dealer, broker or processor will pay for items delivered to his yard, in US\$/gross ton.						
	Boston	L.A.	N.Y.	Philly	S.F.	Seattle/Portland
DATE REVIEWED:	11/16/15	11/09/15	11/10/15	11/10/15	10/21/15	12/15/15
No. 1 heavy melt	120	70	115	115	70	75
No. 2 bundles	45	40	75	70	35	.....
No. 1 busheling	.....	80	.....	.....	85	.....
Machine shop turnings	.....	25	40	.....	20	15
Mixed cast	110	.....	115	115	.....	.....
Unstripped motor blocks	115	75	120	110	80	50
Auto bodies	70	40	75	80	30	60
Cut structural/plate 5' max.	125	80	120	120	80	95

Prices are subject to the disclaimer appearing on the "Metal Exchanges" page.

AMM STAINLESS STEEL SCRAP PRICES

PRICES EFFECTIVE THURSDAY, DECEMBER 31, 2015

DEALER BUYING PRICES

	Boston	Buffalo	Chicago	Cleveland	Detroit	Houston	L.A.	N.Y.	P'burgh	S.F.	Southeast	Montreal†
DATE REVIEWED:	12/29/15	12/29/15	12/29/15	12/29/15	12/29/15	12/29/15	12/29/15	12/29/15	12/29/15	12/29/15	12/29/15	12/29/15
DEALERS' BUYING PRICES (¢/lb.) † Canadian currency												
316 solids, clips	23-24	36-37	36-37	35-40	33-39	35-36	30-35	34-35	35-40	30-40	35-38	66-67
304 solids, clips	17-18	27-28	20-26	20-28	23-29	25-26	20-25	21-22	24-25	20-25	27-30	46-47
304 turnings	11-12	13-14	10-18	15-20	15-21	19-20	10-15	11-12	19-20	10-15	15-20	30-31
304 new clips (prompt industrial scrap)	.....	27-28	20-26	20-28	23-29	.....	24-25	21-22	24-25	20-25	27-30	46-47
430 new clips (prompt industrial scrap)	2-3	.....	5-6	3-6	3-5	.....	.....	4-5	4-5	.....	3-5	.....
DEALERS' BUYING PRICES (US\$/gross ton) † Canadian currency												
316 solids, clips	515-538	806-829	806-829	784-896	739-874	784-806	672-784	762-784	784-896	672-896	784-851	1,478-1,501
304 solids, clips	381-403	605-627	448-582	448-627	515-650	560-582	448-560	470-493	538-560	448-560	605-672	1,030-1,053
304 turnings	246-269	291-314	224-403	336-448	336-470	426-448	224-336	246-269	426-448	224-336	336-448	672-694
304 new clips (prompt industrial scrap)	.....	605-627	448-582	448-627	515-650	.....	538-560	470-493	538-560	448-560	605-672	1,030-1,053
430 new clips (prompt industrial scrap)	45-67	.....	112-134	67-134	67-112	.....	.....	90-112	90-112	.....	67-112	.....

BROKER/PROCESSOR BUYING PRICES

	Chicago	Cleveland	Detroit	Houston	N.Y.	P'burgh	Southeast
DATE REVIEWED:	12/29/15	12/29/15	12/29/15	12/29/15	12/29/15	12/29/15	12/29/15
BROKER/PROCESSOR BUYING PRICES (¢/lb.)							
316 solids, clips	47-51	48-50	48-50	47-48	48-50	47-50	47-51
304 solids, clips	38-40	35-38	38-40	37-38	37-38	35-38	38-40
304 turnings	30-32	25-30	30-32	29-30	29-30	30-32	30-32
430 bundles, solids	8-13	.....	8-13	11-13	.....	8-13	7-13
430 turnings	6-7	.....	.....	.....	.....	5-8	6-7
409 bundles, solids	7-11	.....	6-11	9-10	.....	6-11	5-10
409 turnings	6-7	.....	6-7	.....	.....	4-7	6-7
BROKER/PROCESSOR BUYING PRICES (US\$/gross ton)							
316 solids, clips	1,053-1,142	1,075-1,120	1,075-1,120	1,053-1,075	1,075-1,120	1,053-1,120	1,053-1,142
304 solids, clips	851-896	784-851	851-896	829-851	829-851	784-851	851-896
304 turnings	672-717	560-672	672-717	650-672	650-672	672-717	672-717
430 bundles, solids	179-291	.....	179-291	246-291	.....	179-291	157-291
430 turnings	134-157	.....	.....	.....	.....	112-179	134-157
409 bundles, solids	157-246	.....	134-246	202-224	.....	134-246	112-224
409 turnings	134-157	.....	134-157	.....	.....	90-157	134-157

CONSUMER BUYING PRICES

	Pittsburgh
DATE REVIEWED:	12/08/15
CONSUMER BUYING PRICES (¢/lb.)	
316 solids, clips	64-65
304 solids, clips	44-45
304 turnings	37-38
430 bundles, solids	17-18
409 bundles, solids	13-14
CONSUMER BUYING PRICES (US\$/gross ton)	
316 solids, clips	1,434-1,456
304 solids, clips	986-1,008
304 turnings	829-851
430 bundles, solids	381-403
409 bundles, solids	291-314

EXPORT YARD BUYING PRICES

	Boston	L.A.	N.Y.	Philly	S.F.
DATE REVIEWED:	12/29/15	12/29/15	12/29/15	12/29/15	12/29/15
Estimated prices an export dealer, broker or processor will pay for items delivered to his yard, in US\$/gross ton.					
STAINLESS STEEL SCRAP PRICES (¢/lb.)					
304 solids, clips	.....	29-31	34-36	34-36	29-31
304 turnings	.....	13-14	24-30	24-30	13-14
430 bundles, solids	10-11	6-7	9-10	9-10	6-7
STAINLESS STEEL SCRAP PRICES (US\$/gross ton)					
304 solids, clips	.....	650-694	762-806	762-806	650-694
304 turnings	.....	291-314	538-672	538-672	291-314
430 bundles, solids	224-246	134-157	202-224	202-224	134-157
(a) Appraisal price					

Scrap Prices Today

Stainless steel scrap price changes were made for these cities: **None**

To become a price contributor see "Metal Exchanges" page.

Prices are subject to the disclaimer appearing on the "Metal Exchanges" page.

METAL EXCHANGES

PRICES EFFECTIVE THURSDAY, DECEMBER 31, 2015

LONDON METAL EXCHANGE

Settlement price (*) is the same as the first-session cash asking price. Prices in US\$/tonne. Stocks represent total tonnes in LME warehouses at the end of the preceding day.

	12/31/15		12/30/15	
	Bid	Ask	Bid	Ask
ALUMINUM -- HIGH GRADE				
1st session				
Cash	1,506.50	1,507.50*	1,506.00	1,507.00*
3 months	1,513.00	1,513.50	1,512.00	1,513.00
	Stocks	2,895,525	Stocks	2,901,200
ALUMINUM -- ALLOY (380-1, DIN 226, ADC 12)				
1st session				
Cash	1,600.00	1,610.00*	1,600.00	1,610.00*
3 months	1,610.00	1,620.00	1,610.00	1,620.00
	Stocks	15,140	Stocks	14,920
ALUMINUM-ALLOY (North American Special)				
1st session				
Cash	1,695.00	1,700.00*	1,720.00	1,730.00*
3 months	1,705.00	1,715.00	1,735.00	1,745.00
	Stocks	47,060	Stocks	47,120
COBALT				
1st session				
Cash	23,900.00	24,000.00*	24,390.00	24,590.00*
3 months	23,800.00	24,300.00	24,300.00	24,800.00
	Stocks	630	Stocks	630
COPPER -- GRADE A				
1st session				
Cash	4,701.50	4,702.00	4,714.00	4,715.00
3 months	4,700.00	4,701.00*	4,718.00	4,720.00*
	Stocks	236,225	Stocks	236,975
LEAD				
1st session				
Cash	1,801.00	1,802.00*	1,787.00	1,788.00*
3 months	1,795.00	1,797.00	1,776.00	1,778.00
	Stocks	191,650	Stocks	191,675
MOLYBDENUM				
1st session				
Cash	11,500.00	12,000.00*	11,500.00	12,000.00*
3 months	11,500.00	12,000.00	11,500.00	12,000.00
	Stocks	120	Stocks	120
NICKEL				
1st session				
Cash	8,660.00	8,665.00*	8,600.00	8,610.00*
3 months	8,690.00	8,700.00	8,650.00	8,660.00
	Stocks	441,294	Stocks	444,702
STEEL BILLET				
1st session				
Cash	170.00	220.00*	170.00	220.00*
3 months	185.00	235.00	185.00	235.00
	Stocks	65	Stocks	65
TIN				
1st session				
Cash	14,575.00	14,600.00*	14,650.00	14,655.00*
3 months	14,500.00	14,525.00	14,645.00	14,650.00
	Stocks	6,140	Stocks	6,140
ZINC -- SPECIAL HIGH GRADE				
1st session				
Cash	1,599.50	1,600.00*	1,591.50	1,592.50*
3 months	1,614.00	1,616.00	1,607.00	1,608.00
	Stocks	464,400	Stocks	465,975

NEW YORK FUTURES

COMEX COPPER	
(¢/pound)	
Comex, high grade, electrolytic cathode	
Settlement (eff. 12/31/15)	
Spot (Jan)	212.55¢
Feb	213.00¢
Mar	213.50¢
May	214.15¢
Opening stocks, short tons	69,753
COMEX GOLD	
(US\$/troy ounce)	
Comex settlement (99.5%, eff. 12/31/15)	
Jan	\$1,060.30
Feb	\$1,060.20
Apr	\$1,060.80
Jun	\$1,061.50
COMEX SILVER	
(¢/troy ounce)	
Comex settlement (99.5%, eff. 12/31/15)	
Jan	1,377.50¢
Mar	1,380.30¢
May	1,383.40¢
Jun	1,386.70¢
PLATINUM AND PALLADIUM	
(US\$/troy ounce)	
(Nymex settlement prices, eff. 12/31/15)	
Platinum (99.95%), Jan	\$891.70
Platinum (99.95%), Apr	\$893.20
Palladium (99.95%), Mar	\$562.00
Palladium (99.95%), Jun	\$562.25
NATURAL GAS	
(¢/mmBtu)	
(Nymex settlement prices, eff. 12/31/15)	
Henry Hub, Feb	\$233.70
HOT-ROLLED COIL	
(US\$/short ton)	
(Nymex settlement prices, eff. 12/31/15)	
Dec	\$364.00
Jan	\$391.00
Feb	\$401.00
Mar	\$405.00
MIDWEST NO. 1 BUSHELING FERROUS SCRAP	
(US\$/gross ton)	
(Nymex settlement prices, eff. 12/31/15)	
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A

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AMM invites you to become a pricing/assessment contributor. Please send your name, company, contact details and metals/categories of interest to the Editor-in-Chief, Bristol Voss, at bristol.voss@amm.com. An AMM metals specialist in your category will follow up by phone or e-mail to establish the details of how and how frequently you would be willing to provide input. AMM reports on more than 1,200 proprietary steel, scrap, ferrous and nonferrous categories.

SHANGHAI FUTURES EXCHANGE

(in China yuan/tonne)
(prices effective 12/31/15)

Aluminum	11,200
Copper	36,710
Lead	13,250
Zinc	13,320

EXCHANGE RATES

Selling prices in US dollars at 11:00 am in NY, based on Reuters quotes.

	\$ per	per \$
Euro	1.0866	0.9203
Canada (dollar)	0.7198	1.3893
Japan (yen)	0.008314	120.2850
Britain (pound)	1.4743	0.6783
China (yuan)	0.1540	6.4937
Mexico (peso)	0.0579	17.2650
Russia (Ruble)	0.0137	73.1510
Switzerland (franc)	0.9985	1.0015
Australia (dollar)	0.7275	1.3747
South Africa (Rand)	0.0646	15.4800

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AMM MARKET GUIDE

PRICES EFFECTIVE THURSDAY, DECEMBER 31, 2015

PRECIOUS METALS

(all precious metal prices effective 12/31/15)

GOLD	
(US\$/troy ounce)	
London A.M.	\$1,062.25
London P.M.	\$1,062.25
Handy and Harman (bullion base)	\$1,062.25
Handy and Harman (fabricated form)	\$1,179.098
Engelhard (bullion base)	\$1,063.95
Engelhard (fabricated form)	\$1,143.75
IRIDIUM	
(US\$/troy ounce)	
Johnson Matthey	\$520.00
PLATINUM	
(US\$/troy ounce)	
Engelhard (unfab.)	\$888.00
Engelhard (fab.)	\$988.00
Johnson Matthey	\$890.00
PALLADIUM	
(US\$/troy ounce)	
Engelhard (unfab.)	\$558.00
Engelhard (fab.)	\$658.00
Johnson Matthey	\$553.00
RUTHENIUM	
(US\$/troy ounce)	
Johnson Matthey	\$42.00
RHODIUM	
(US\$/troy ounce)	
Johnson Matthey	\$660.00
SILVER	
(\$/troy ounce)	
Engelhard (bullion base)	1,390.00¢
Engelhard (fabricated form)	1,668.00¢
Handy and Harman (bullion base)	1,385.50¢
Handy and Harman (fabricated form)	1,731.90¢
Heraeus Precious Metals	1,387.50¢
Metalor USA Refining	1,381.00¢
LBMA	1,382.00¢

FOOTNOTE
* Price is sourced from U.S. Department of Commerce data compiled by the U.S. Geological Survey.

BASE METALS

ALUMINUM		
LME(99.7%) unofficial prices		
	Spot(¢/lb)	Hol.
	3-month(¢/lb)	Hol.
Midwest Premium (rev. 12/30/15)	8.75¢-9.25¢	
AMM Free Market, ¢/lb	77.09¢-77.59¢	
6063 extrusion billet upcharge	12.50¢-13.50¢	
Domestic producer estimated prices (\$/lb)		
C355.2		1.01
A356.2		0.96
6061 (extrusion hom.)		0.79-0.81
6063 (extrusion hom.)		0.87-0.89
SECONDARY ALUMINUM		
AMM Free Market, ¢/lb, delivered Midwest (rev. 12/31/15)		
A380.1		83.00-85.00
319.1		88.00-90.00
356.1		90.00-92.00
A360.1		90.00-92.00
A413.1		91.00-93.00
COPPER		
Premium (rev. 12/31/15)		
		5.50¢-6.00¢
AMM free market cathode, ¢/lb		
		218.05¢-218.55¢
LEAD		
Premium (rev. 12/10/15)		
		10.00¢-14.00¢
AMM free market price, ¢/lb		
		91.68¢-95.68¢
NICKEL		
Melting material		
		15.00¢-20.00¢
AMM free market price, ¢/lb		
		407.74¢-412.74¢
Plating material		
		49.85¢-54.49¢
AMM free market price, ¢/lb		
		442.59¢-447.23¢
TIN		
Grade A premium (US\$/tonne)		
		\$604.91-\$610.26(a)
AMM free market price		
		US\$/tonne \$15,179.91-\$15,185.26
		¢/lb 688.56¢-688.80¢
ZINC		
Special high grade premium		
		(rev. 12/24/15) 6.75¢-7.25¢
AMM free market price, ¢/lb		
		79.29¢-79.79¢
SHG average week ending		
		12/25/15 75.74¢
ZINC-DIE CASTING ALLOYS		
(rev. 12/31/15)		
	Premium	Price, ¢/lb
Nos. 3 and 7	18.00¢-20.00¢	90.54¢-92.54¢
No. 5	20.00¢-22.00¢	92.54¢-94.54¢
No. 2	22.00¢-24.00¢	94.54¢-96.54¢
Zinc-aluminum foundry alloys		
No. 8	22.00¢-24.00¢	94.54¢-96.54¢
No. 12	24.00¢-26.00¢	96.54¢-98.54¢
No. 27	28.00¢-32.00¢	100.54¢-104.54¢

MINOR METALS

ANTIMONY	
(rev. 12/30/15)	
MB free market, US\$/tonne	\$5,050.00-\$5,350.00
BISMUTH	
(rev. 12/30/15)	
MB free market, US\$/lb	\$4.10-\$4.70
CADMIUM	
(rev. 12/30/15)	
MB free market	
min 99.95%, ¢/lb in warehouse	40.00¢-45.70¢
min 99.99%, ¢/lb in warehouse	45.00¢-51.00¢
CHROMIUM METAL	
(rev. 12/30/15)	
MB free market, US\$/tonne	\$7,700.00-\$8,200.00
COBALT	
(rev. 12/30/15)	
MB free market	
High grade, US\$/lb in warehouse	\$9.20-\$11.40
Low grade, US\$/lb in warehouse	\$9.20-\$11.40
GERMANIUM	
(rev. 12/30/15)	
MB free market, US\$/kg	\$900.00-\$975.00
INDIUM	
(rev. 12/30/15)	
MB free market, US\$/kg	\$230.00-\$280.00
MAGNESIUM	
MB Europe free market, US\$/tonne	
(rev. 12/30/15)	
	\$1,965.00-\$2,035.00
AMM free market (US), US\$/lb	
(rev. 12/30/15)	
	\$1.73-\$1.75
MERCURY	
(rev. 12/30/15)	
MB free market, US\$/flask	\$1,250.00-\$1,650.00
SELENIUM	
(rev. 12/30/15)	
MB free market, US\$/lb	\$6.80-\$8.80
SILICON METAL	
(rev. 12/10/15)	
AMM free market, ¢/lb	107.00¢-112.00¢
TITANIUM	
Estimated market prices in US\$/lb, f.o.b. shipping point. Sponge, imported for consumption, including tariff	
Japan, rotor quality (rev. 12/11/15) *	\$5.51
Ingot, 6Al-4V (rev. 12/11/15)	\$8.50-\$8.75
Plate, alloy, AMS 4911 1/2 inch x 48-in x 120-in (rev. 12/11/15)	\$25.00-\$26.00
Bar, alloy, AMS 4928 1-in. dia. round (rev. 12/11/15)	\$20.00-\$21.00
Plate, commercially pure, ASTM-B265 Grade 2, 1/2-in x 96-in x 240-in (rev. 12/11/15)	\$10.50-\$11.00
Sheet, commercially pure, ASTM-B265 Grade 2, 1/8-in x 36-in x 96 in (rev. 12/11/15)	\$13.50-\$14.00

FERROALLOYS

FERROCHROME	
(rev. 12/31/15)	
High carbon	
AMM free market, ¢/lb	99.00¢-102.00¢
Low carbon	
AMM free market, ¢/lb	
0.05%C-65% min Cr	220.00¢-225.00¢
0.10%C-62% min Cr	200.00¢-207.00¢
0.15%C-60% min Cr	195.00¢-200.00¢
FERROMANGANESE	
(rev. 12/31/15)	
High carbon	
AMM free market, US\$/long ton	\$760.00-\$780.00
Medium carbon	
AMM free market, ¢/lb	85.00¢-87.00¢
Low carbon	
AMM free market, ¢/lb	88.00¢-90.00¢
SILICOMANGANESE	
(rev. 12/31/15)	
AMM free market, ¢/lb	35.00¢-37.00¢
FERROSILICON	
(rev. 12/31/15)	
AMM free market, ¢/lb	66.00¢-70.00¢
MOLYBDENUM	
(rev. 12/31/15)	
AMM free market	
Canned molybdic oxide, US\$/lb	\$5.10-\$5.30
FERROMOLYBDENUM	
(rev. 12/31/15)	
AMM free market, US\$/lb	\$6.00-\$6.20
TUNGSTEN	
(rev. 12/30/15)	
MB free market, APT, US\$/mtu	\$170.00-\$190.00
VANADIUM PENTOXIDE	
(rev. 12/30/15)	
MB free market,	
min 98% V2O5, US\$/lb	\$2.25-\$2.50
FERROVANADIUM	
(rev. 12/31/15)	
AMM free market, US\$/lb	\$5.70-\$5.90

To become a price contributor see "Metal Exchanges" page

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American Metal Market

MANAGING DIRECTOR

Raju Daswani • (646) 274-6257
rdaswani@amm.com

EDITORS

Bristol Voss editor-in-chief
(212) 224-3932 • bristol.voss@amm.com
Jo Isenberg-O'Loughlin executive editor
(646) 274-6230 • jisenberg@amm.com

TEAM LEADERS

Thorsten Schier steel team leader
(646) 274-6240 • tschier@amm.com
Daniel Fitzgerald nonferrous team leader
(212) 224-3939 • dfitzgerald@amm.com
Lisa Gordon scrap team leader
(412) 880-4992 • lgordon@amm.com

NEWS TEAM

Michael Cowden correspondent, steel
(773) 643-1244 • mcowden@amm.com
Nat Rudarakanchana reporter, steel
(212) 224-3944 • nat.rudy@amm.com
Brad MacAulay reporter, nonferrous scrap
(412) 765-2585 • brad.macaulay@amm.com
Grace Lavigne reporter, copper, zinc
(212) 224-3908 • grace.lavigne@amm.com
Kirk Maltais reporter, aluminum
(212) 224-3907 • kirk.maltais@amm.com
James Lawrence reporter, scrap
(724) 935-6235 • james.lawrence@amm.com

Emilia David reporter, supply chain, steel
(212) 224-3927 • emilia.david@amm.com

Carla Bridglal reporter
(212) 224-3954 • carla.bridglal@amm.com

Michael Lambert reporter, pipe & tube
(212) 224-3919 • michael.lambert@amm.com

Dan Israeli reporter, raw materials, scrap
(212) 224-3918 • dan.israeli@amm.com

Mei Ling Toh reporter
(646) 274-6246 • mei.toh@amm.com

NEWS DESK

Renate Foster Mas chief copy editor
(646) 274-6236 • rmas@amm.com
Michael R. Holman senior copy editor
(239) 208-2782 • mholman@amm.com
Thaddeus Rutkowski senior copy editor
(212) 224-3906 • thaddeus.rutkowski@amm.com

Sara Kelly senior copy editor
(212) 224-3905 • sara.kelly@amm.com

PRODUCTION

Raveendra Karanth production manager/
pricing administrator
(646) 274-6252 • rkaranth@amm.com
Dany Peña production associate
(212) 224-3940 • dpena@amm.com
Aracely Lopez production pricing associate
(646) 274-6215 • aracely.lopez@amm.com

CUSTOMER SERVICE/SALES

(877) 638-2856 (US)

(412) 765-3581 (Int'l.)

custserv@amm.com

ADVERTISING SALES

Mary Connors vice president of sales/
publisher, AMM magazine

(646) 274-6250 • mconnors@amm.com

Mike Greenlund regional sales manager

(646) 274-6242 • mgreenlund@amm.com

Adelaida Montilla advertising sales/
marketing assistant

(212) 224-3937 • adelaida.montilla@amm.com

SUBSCRIPTIONS

Karen Ross VP Operations

(412) 880-4966 • kross@amm.com

John Lecky VP subscriptions and information sales

(412) 880-4969 • john.lecky@amm.com

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HEAD OFFICE

New York

225 Park Avenue South, 6th floor

New York, NY 10003 (646) 274-6202

BUREAU

Pittsburgh

707 Grant Street, Suite 1340

Pittsburgh, PA 15219 (412) 765-2580

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