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Prepared for the members of ASA's Industrial Piping Division

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4Q16

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About this Report

Published by the American Supply Association (ASA) and distributed in February and August exclusively to members of the association's Industrial Piping Division (IPD), this report provides comprehensive insight and leading information compiled from primary sources by knowledgeable industry leaders. It contains the most current and qualified market data for more than a half-dozen commodities, including recent and anticipated changes in pricing or price-influencing action(s) as well as factors affecting supply and demand, etc.

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CARBON STEEL

Domestic Pipe

So the old expression, "What goes up must come down," seems perfectly applicable when the subject is domestic carbon steel pipe.

At last report, 3Q16, domestic hot rolled coils (HRC) pricing was experiencing an increase. Now with anemic demands and the addition of more domestic HRC on line this quarter and next, we are seeing downward pressure on pricing. Even with "import duties" being levied against a significant portion of international HRC manufacturers, domestic HRC continues to give back some of the earlier increases.

As the demand from the energy sector is still low, more and more domestic pipe manufacturers have been attempting to re-enter the standard pipe market, prompting aggressive pricing pressure as well. EXLTUBE is in the midst of expanding its offering to include 8-inch pipe. Wheatland Tube, a division of Zekelman Industries, has had a leadership change with Kevin Kelly (Atlas Tube Division) assuming the president's responsibility from Randy Boswell, who is retiring. Nucor Steel's purchase of Independence Tube, along with the installation of its large diameter pipe mill in Mississippi, should make the company one of the lowest cost producers of domestic ERW pipe.

Import Pipe

Interestingly enough, import carbon steel pipe prices are rising slightly as the domestic prices drop, which is somewhat unusual. Overall, import steel prices have been very stable compared to domestic, but looking forward, there are a couple of factors that could provoke a change. First, there are rapid increases in the spot market of coking coal and iron ore. These increases alone could cause the cost of steel to rise by $70/MT or more. Second, with the rise of HRC from China shipping to the Korean mills, it looks like offshore pricing on ERW is on the rise.

With end of the year tax issues looming, inventory purchases will be of the "just in time" variety. If this scenario comes to pass, it will apply downward pressure on pricing. It is a very muddled environment, at the moment.

Welding Fittings & Flanges

The forecast for 4Q16 remains down given continued weak demand for energy projects due to low oil and gas prices. Prices appear to be stable as larger distributors have continued to work off excess inventory. Everyone is watching prices after the petition by Weldbend and Boltex to the United States Department of Commerce and the U.S. International Trade Commission (ITC) was approved. These companies had filed a claim that the domestic industry was materially injured due to unfair pricing and government subsidized imports from India, Spain and Italy on these products.

Commodity steel prices are forecasted to remain stable as the market continues to adjust to current demand levels, and we begin to see the impact of increased tariffs on Chinese Steel.

Oil prices remain weak. As of October 24, 2016, the price per barrel of WTI crude oil was listed at $50.32. This is 12.0 percent above the September, 2016, average. The 52-week high was $53.07, and the low was $27.82.

Low natural gas prices have continued to be a drag on upstream demand. The U.S. National Average, as per NYMEX, was $3.35 MBT for October, 2016, versus $2.48MBT for October, 2015.

Upstream market conditions remain weak. According to the Baker Hughes Rotary Rig Count for October 21, 2016, there has been an overall reduction in operating rigs to 696 from 977 a year ago. Oil rigs have led the decline. There are now 443 versus 594 last year. Gas rigs have been reduced to 108 from 193 a year ago. The largest decline in rigs 2016 versus 2015 is in Eagle Ford at 33, down from 77. Williston is down to only 30 rigs from 64, and the Permian is at 212 versus 229 a year ago.

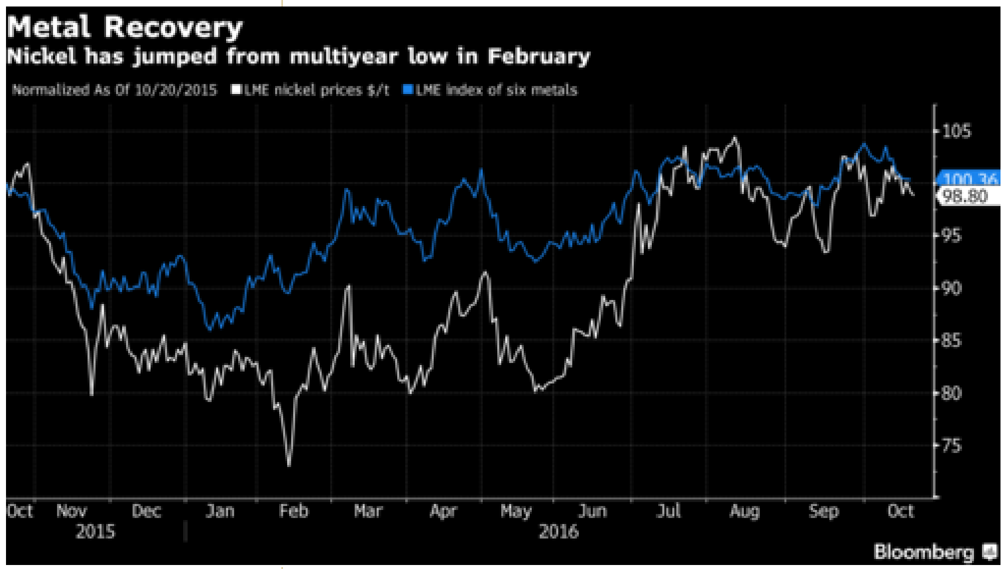
The U.S. presidential election is less than a week away. Many believe the uncertainty over the direction of the election and business climate will continue to be a drag on demand and growth through 4Q16.

Forged Steel Fittings

The forged steel fitting market remains relatively soft. Major markets, such as upstream oil and gas, are still being affected by low oil production rates. Demand for raw material, SBQ (special bar quality), is still soft leading to low input pricing. Forged steel fitting fill rates are very high for both manufacturers and distributors throughout the country. Import material has continued to flow into the market, also creating strong supply. Pricing has remained stable, and there are no foreseeable changes in the market place.

STAINLESS STEEL PIPE, FITTINGS & FLANGES

In 2016, the lack of U.S. industrial construction activity contributed to the further erosion in demand for stainless steel products. Reduced product demand has resulted in an overabundance of inventory throughout the supply chain forcing nickel to a ten year low in February. Since realizing rock bottom in February, nickel pricing has responded with gradual increases throughout 2016. The slight gains serve as a positive indicator that nickel prices will continue to creep closer to typical performance expectations over the next few years. Over the past few months, the supply chain has continued to pass along 20.0 percent worth of price increases. These increases are still 50.0 percent lower than the high recorded in May, 2014. Worth noting, Goldman Sachs supports price increase expectations as evidenced by releasing a statement projecting 2017 as, "a banner year for nickel."



Lower pricing for stainless steel has resulted in increased demand from markets unrelated to industrial construction. The benefit of stainless steel at lower cost has enabled manufacturers of industrial machinery, metal goods, household appliances and electronics to produce consumer goods at attractive prices. Increased demand for nickel as a component in lithium-ion batteries is expected to continue as electric car manufacturers predict 140 million of these vehicles will be on the road by 2035. External influences coupled with reduced on hand inventory and optimistic industrial construction forecasts for 2017 should result in gradual yet consistent inflation.

China currently accounts for more than 50.0 percent of the world's stainless steel production. Estimates show an increase of 7.8 percent in production for 2016. China's stainless steel production success is dependent on the Philippines' ability to supply nickel ore. With 97.0 percent of China's nickel ore sourced from Filipino mines, close attention is being paid to recent closures. Mine operations suffered as demand decreased and stockpiles satisfied consumer needs. Struggling mines were delivered a second blow as environmental concerns resulted in increased operational scrutiny. Through August, 10 mines were shut down with another 20 potential closures looming. The closures would directly impact stainless steel material supply with as many as 12 nickel mines no longer in operation. The reduction in Filipino mine output could potentially cause minor disruption to raw material supplies.

The most significant unanswered market influence is Indonesia's unlikely easing of the 2014 moratorium placed on mineral exports. Should Indonesia partially lift the moratorium, nickel supplies could become more readily available and cushion any disruptions stemming from Filipino mine closures. Additional influences include the performance of the U.S. dollar, global equities and oil prices.

Outlook for Some Key Stainless Steel Products

Pipe

The U.S. International Trade Commission (ITC) determined that U.S. manufacturers were materially injured by reason of imports of welded stainless steel pressure pipe from India sold below fair market value. During this "dumping" period, approximately $47.5 million worth of material entered the U.S. market. Total import value from all other countries totaled $102.6 million during the same period. Top importers in order of value during this period were Taiwan, India and Korea. As result of the ITC's decision, the U.S. Department of Commerce (DOC) has issued antidumping and countervailing duty orders on imports of this product type from India. Stainless steel pipe is expected to see market pricing increases during 4Q16, which should continue into 2017. The increase expectations stem from market pricing corrections related to the antidumping suit and expected increases related to chrome and nickel.

150LB. Fittings

Pricing and demand is expected to remain consistent through the balance of 2016.

ANSI Flanges

Price increases are expected in 2017 with no dedicated timeline.

Butt-Weld Fittings

Pricing and supply chain expectations are considered stable for the foreseeable future.

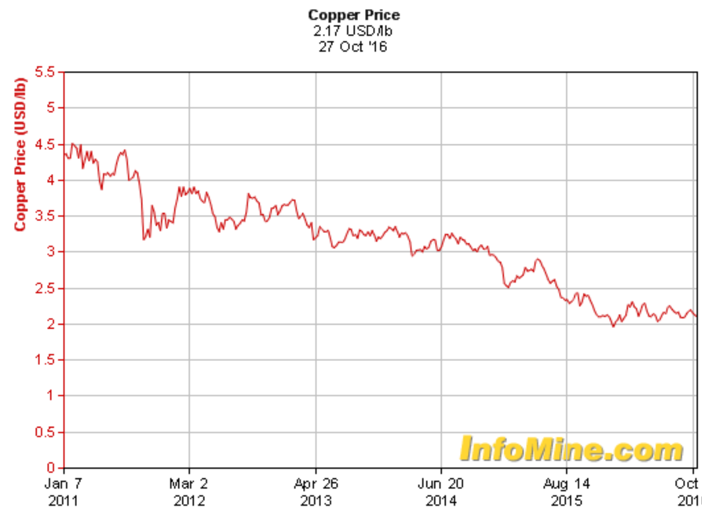
3000LB. Fittings

Demand is heavily tied to the performance of the oil and gas industry. Current expectations are that supplies will continue to be readily available with stable pricing.

COPPER TUBE & FITTINGS

Copper Continues to Struggle

Copper has been trading flat to down over the past three months, with a slight increase at the time of this writing near the end of October. Copper's growth is being heavily outpaced by zinc and nickel. In August, Barclays predicted that copper supply will possibly outpace demand through 2020. According to Andrew Hecht, a commodity trader and options expert and analyst, *"Since reaching highs in 2011 at over $4.60 per pound, copper has had a very tough time, and it continues to lag almost all other nonferrous metals when it comes to price performance. The bottom line is that copper remains in a bear market, and over recent sessions, it is beginning to look sick once again,"*



Oil Price Decline Has Been Bad for Copper

Prices of most commodities have been under pressure since the summer of 2014 due to the crash in oil prices on a supply glut and as concerns over the economic slowdown in China weigh. Copper has been especially hard hit. Current copper prices do not represent what the metal may be truly worth.

Stronger Dollar is Bad for Copper

The stronger dollar is problematic for copper as well as some other commodities. The U.S. dollar remains the reserve currency of the world, and there is a historical connection between the U.S. currency and commodity prices. It has become difficult for copper to sustain any rally in the face of a stronger dollar.

Copper Supplies Point to Lower Price

Copper inventories remain high, and output continues to flow into the market as the price of producing a pound of copper is still below current market levels. Copper will need to dip to a level where output and inventories weaken in order for the price to recover. While other commodities have fared better over recent weeks, copper already suffers from weak supply-side fundamentals, and the stronger dollar put a knife in the back of its rally.

What Does the Future Hold for Copper?

According to a team of analysts at [Goldman Sachs] led by Jeffrey Currie, *"Over the next three to six months, we believe that copper will continue to underperform zinc, with copper about to hit a wall of supply, while the zinc concentrate market continues to tighten."* In its note, the team added, *"In copper, we expect the main catalyst for the downside will be accelerating oversupply, but we are also conscious that we are entering a weak seasonal period for demand, during which period inventories tend to build, and prices often come under pressure."*

PLASTICS, RESINS & HDPE

PVC

2016 has been a fairly stable year for PVC pipe prices. There are some signs of a possible increase to CPVC, which hasn't seen an increase since 2014. There have been moderate increases on PVC base resin prices this year, around $0.07/lb. or 20.0 percent. However, the lack of robust demand has not allowed these increases to translate into large increases in pipe prices. A PVC base resin increase of around $0.02/lb. should translate to around a 4.0 percent increase in price. That is about the change that occurred in 3Q16. As construction season draws to an end, the possibility of the acceptance of another increase in the market appears unlikely, and traditionally, prices tend to drop during the fourth quarter. Although base resin prices seem to warrant an increase, general demand for PVC makes the increase less likely heading into 1Q17. Although increases in oil and natural gas prices could drive resin prices higher, increased pipe prices seem unlikely before 2Q17.

HDPE

It has been a slow year for HDPE producers, in large part because two of their standard markets they depend on have been in recovery mode. HDPE, mainly used in water transfer for the oil and gas business, has hit a wall with stagnantly low prices and a supply glut to boot. The other market, coal, has been reeling with its own set of problems, namely an abundance of cheap natural gas and strangling government regulations. Both of these market segments have pushed HDPE manufacturers into defensive positions trying to hold on to what market share they have left and maintain margins up to sustainable levels. Pressure pipe has been especially under siege because all of the producers are chasing the same projects. One major producer has completely dropped out of the game until steady demand can push margins back into profitability. Currently, there are no signs of a rebound this quarter or likely next year.

Overall, pricing for the year has been relatively stable. Distributors have enjoyed some stability when buying inventory without fear of major swings. However, a significant increase came in 3Q16 giving some producers a short burst of relief, but it will be short lived. Producers across the country are running at about 70.0 percent capacity and have shuttered some of their same lines that had four to six week back logs this time last year. A portion of the price increase that went into effect in October has already been rescinded with a TVA (Temporary Value Adjustment). One industry insider expects the balance of the increase to be given back incrementally throughout the remainder of 2016.

Five years ago, resin producers were forecasting an endless supply of natural gas business. Therefore, many of the top producers added tremendous production capacity to their plants not knowing an energy sector collapse was coming. Since planning, engineering, financing and construction of this magnitude take years to implement, it was too late to turn back. Now, an additional billion pounds of resin capacity is coming online, and all domestic resin producers are jockeying for position. Only 10.0 percent of this new resin is pipe grade, but that is more than enough to choke resin manufacturers in a down market. Some of this overcapacity will likely be exported in the first half of 2017.

One bright spot for HDPE could be domestic infrastructure. The water crisis in Flint, Michigan, has presented the opportunity for widespread use of HDPE in potable water applications. The advantageous qualities of HDPE are that it is contaminant free (no lead), and since it is fused together, it is virtually leak free. Should governments decide to go forward with infrastructure spending with an emphasis on clean water, HDPE will likely be the big winner.

MALLEABLE IRON FITTINGS

Domestic

A 6.0 percent increase was instituted in June, 2016, which was the first such increase in almost two years. Drivers included sharply rising raw material costs along with continued rising healthcare and labor costs. A strengthening demand for U.S. made product, particularly in the utility sector, accounted for stable unit growth. Domestic suppliers report ample capacity to meet any further growth.

Import

Driven by increased manufacturing costs, various manufacturers announced an 8.0 percent increase in April, which took hold this summer. China is the primary importer of this product line. Manufacturers report sufficient inventory to meet market needs as demand has softened.