

Business Day

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Stainless Steel Widens Appeal

Broad Uses Bolster Industry's Output

By JOHN HOLUSHA

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PITTSBURGH — The rusted tailpipe may be going the way of the side-vent window. In recent years, auto makers have increasingly been equipping cars and light trucks with rust-resistant exhaust systems made of stainless steel. By the 1996 model year, virtually every car produced in North America is expected to have a stainless steel exhaust system.

Stainless steel is also making its way into household chimney liners, energy-efficient storm windows and a host of other applications in which consumers' demand for durability and quality has overtaken manufacturers' tendency to opt for the cheapest solution.

Indeed, finding new uses for corrosion-resistant stainless steel is one reason that producers of the material have found theirs to be an erosion-resistant market, achieving a compound growth rate averaging 4 percent annually for the last 30 years.

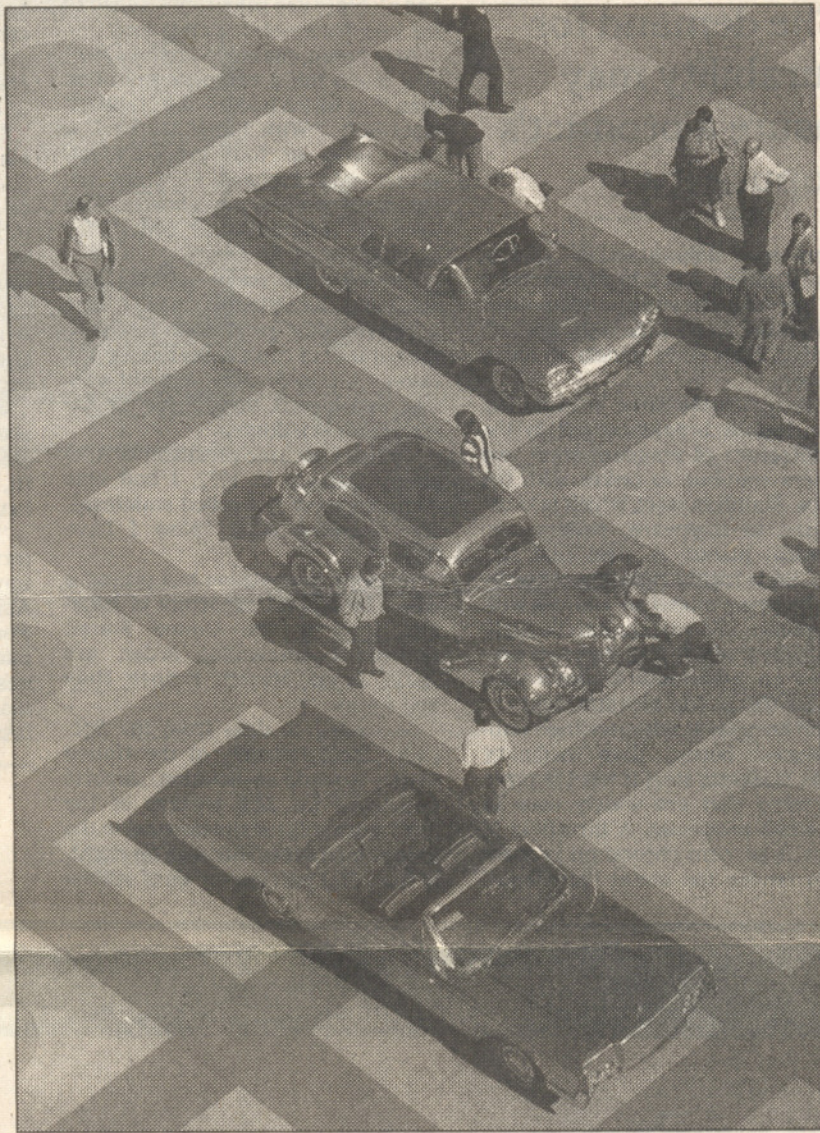
And the trend, which is expected to continue into the next century, is expected to lead to record consumption of stainless steel in the United States this year.

"It is hard to find any long-term growth in basic steel, but the underlying demand for stainless steel has been growing faster than economic activity, which is unusual for a metal," said Charles A. Bradford, an analyst with UBS Securities.

A record year for stainless steel may seem unremarkable at a time when the entire United States steel industry — from commodities like carbon steel to specialty alloy grades — is enjoying its biggest boom in decades.

Yet most steelmakers know that for every boom in the industry comes the inevitable downturn, which is the reason most steel producers have deliberately avoided gearing up production to fulfill the current demand. The consumption of carbon steel, the biggest segment by far, is expected to fall short this year of the United States record of 111 million tons, set in 1973.

But in the stainless steel segment



Steve Mellon/Impact Visuals for The New York Times

More auto parts are made of corrosion-resistant stainless steel. Ford has built test cars — including a 1960 Thunderbird, top, a 1936 "deluxe sedan" and a 1967 Lincoln — to demonstrate the metal's durability.

of industry in the United States, led by the Allegheny Ludlum Corporation, producers are toiling to keep up with record demand for their product. The consumption of stainless steel in the United States is forecast at 2.1 million tons for the entire year — slightly more than a fifth of the global stainless steel market.

Allegheny Ludlum, based in Pittsburgh, has been consistently profitable since becoming a public company in 1987, after splitting from Allegheny International in a management-led buyout. The other leading stainless steel makers — Armco Inc.

of Parsippany, N.J.; J & L Specialty Steel Inc. of Pittsburgh, and Lukens Inc. of Coatesville, Pa. — are in various states of revamping and recovery from changes in ownership or money-losing efforts in other, lower-priced types of steel.

Even so, the continued good prospects for stainless steel have prompted positive reports from analysts for at least J & L Speciality, whose stock was recently upgraded to a "moderate outperformer" by

Continued on Page D2

For Stainless Steel, New Uses Widen Its Appeal

Continued From First Business Page

Goldman, Sachs & Company, and to "strong buy" by Kidder, Peabody & Company.

Mr. Bradford, the analyst, said he saw plenty of room for continued growth in the United States steel market, as consumers demanded longer-lasting cars, appliances and other products. On a per-capita basis, the consumption in this country is still only about half the level of that in Japan and many European countries, where manufacturers began emphasizing quality and durability in metal goods much earlier.

While the output of stainless steel remains fairly small compared with the overall steel production in the United States, the high prices commanded by stainless steel makes it an important component of producers' financial results. Price varies by grade, but a ton of stainless steel sells for about \$2,300 on average, compared with \$500 a ton for commodity-grade carbon steel.

"The rule of thumb is that stainless is 1 to 2 percent of industry tonnage, but 10 to 12 percent of the dollars," said Bert Delano, a spokesman for Allegheny Ludlum.

The company, the biggest domestic producer of stainless steel, derives 86 percent of its revenue from the metal, which it produces in nine plants, situated in western Pennsylvania, as well as Claremont, Okla.; New Castle, Ind.; Lockport, N.Y.; and Wallingford and Waterbury, Conn.

Allegheny Ludlum had profits of \$70.8 million in 1993 on sales of \$1.1 billion, and is expected soon to report

third-quarter earnings of about \$10 million for the period that ended on Sept. 30.

Stainless steel has long been the company's focus. In 1936, for example, the company that would eventually become Allegheny Ludlum persuaded the Ford Motor Company to

The demand for durability may insure a product's popularity.

stamp six "deluxe sedan" bodies from stainless steel, to demonstrate the metal's durability. Fifty-eight years later, four of the cars are still running, their body panels as shiny as ever.

Although there have been no big technological breakthroughs in the manufacture of stainless steel, the makers continue to tinker with the recipe. Stainless steel, which is widely used in cookware, cutlery and chemical plants, is steel that has been made highly resistant to corrosion by being mixed, or alloyed, with chromium. The surface can be highly polished, which also makes it useful as an architectural decoration and for things like elevator doors.

And because it tolerates high temperatures better than ordinary steels, stainless steel is used in pipes and tubes that are widely used in industrial processes. A threshold of about 10 percent chromium is needed to render the metal "stainless"

under ordinary conditions, although some alloys contain up to 27 percent chromium for use in especially hostile environments, like factories that use hot, corrosive chemicals.

Most high-grade stainless steel alloys contain nickel as well, which improves its metalworking properties and helps produce the shiny finish. Other metals like molybdenum and niobium are sometimes added to the mix for special applications.

As a result, making stainless steel is a much more complex operation than that which occurs in a standard steel mill. "With flat-rolled carbon steel, three or four grades dominate," said Richard P. Simmons, chairman of Allegheny Ludlum. "We have 300 different melt codes" for stainless steel, he said.

Although the stainless steel production in the United States has been a consistently profitable business, the number of companies has shrunk in response to decades of plant closings and layoffs throughout the domestic steel industry.

"When I became president of Allegheny Ludlum in 1972, I had nine competitors in flat-rolled stainless," Mr. Simmons said. "Now I have three."

Foreign competition has played a role. The largest exporters of stainless steel to the United States, ranked in descending order, are Spain, Japan, Mexico, France, Italy and Korea.

According to data from the Specialty Steel Industry of the United States, a trade association, imports accounted for 26.6 percent of the total market for stainless steel in the first half of 1994. That was up slightly from 25.2 percent for all of 1993 —

but up significantly from 11.9 percent in 1988.

Dire as the import figures may sound, much of the growth in the last few years has been the result of the demand for stainless steel in the United States outrunning the ability of American companies to produce it in sufficient volume. But like their counterparts in the carbon steel industry, stainless steel producers complain that too much of the imported product comes from producers subsidized by their governments to maintain employment levels.

In any case, pressure from imports has forced stainless steel producers to push for greater efficiencies in the mills and cut costs. "I'm producing about one billion pounds of specialty steel this year," Mr. Simmons said. "That is about twice as much as in 1980, and we are doing it with half as many people." Allegheny Ludlum employs about 6,000 people.

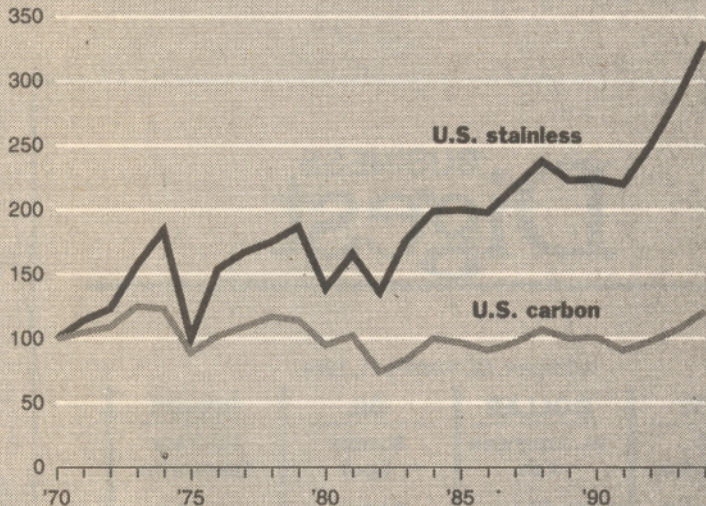
Such efficiencies, analysts say, should put United States stainless steel producers in a position to benefit, as more uses are found for the long-lasting metal.

"People are beginning to think in terms of life cycle costs rather than immediate price," said Thomas E. Abrams, an analyst with Kidder, Peabody. "It seems to be sinking into the psyche of American engineers that paying a little more per ton is actually cheaper if the product lasts longer."

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A Record of Steady Growth

Growth comparison of stainless steel and carbon steel markets in the United States. Consumption index; 1970=100.



Source: Allegheny Ludlum Corporation