



## What Does the Future Hold for Leaded Steels?

12L14 and other leaded steels are no longer melted in the USA.

My fifty plus year career in steelmaking and manufacturing took me to employment at mills and meltshops in four different states, four different melt shops, and authority over quality at ten steel mills — both hot and cold finished. Leaded steel was a product of these plants.

In addition to the aforementioned plants, our cold finished mills often sourced leaded steel hot roll bars from Inland Steel or Bethlehem Steel. We cleaned, cold drew and straightened these bars, selling millions of pounds for hose fittings, carburetor and fuel line parts and many other automotive and non-automotive applications. Leaded steels provided machining shops with economies of production through increased tool life, increased speed, increased production rates and superior as-machined surface finish. Leaded steels were the optimum input for the screw machining industry in those days.

While leaded steels were often the most important product for our sales throughout the 1980's and 1990's, there were also enhanced grades: LedAX from Inland Steel and Beth Led B from Bethlehem Steel. Their higher price (mostly due to higher yield loss at the hot mill during rolling) could be justified when trying to hold difficult tolerances, finishes or cutting the finest threads. Despite the abundance of choices, the market was filled with rumors about the upcoming banning of lead, by customers, the Europeans, or the EPA. A

host of substitute materials — some containing Bismuth, Selenium, Tellurium, and even Tin, were developed and brought to market. My counsel to our company's customers — many of whom were PMPA multi-spindle screw machine shops making hose fittings for Automotive and fluid power

applications — was to not get too upset by all of these rumors. Leaded steels were plentiful in the market and would remain so despite all of the angst in the marketplace.

My final steel manufacturing employer, Republic, had two EPA permits to melt Lead: one at the Lorain, Ohio Basic Oxygen Furnace, and Continuous Caster (formerly US Steel where I was lab supervisor) and one at the Canton Electric Furnace Meltshop and Cast Roll (former Republic.) I have been bullish on leaded

steels as an appropriate and readily available input for our industry throughout my career.

### Until

Until the Lorain works (which had been integrated into the Bartech/ Republic Steel operations) were destroyed by a series of catastrophes starting with a cold weather fish-kill event. The fish clogged the cooling water intakes — crippling the blast furnaces. Without hot metal from the blast furnaces, there could be no steelmaking at the BOF/ Continuous Caster. An Electric Arc furnace was constructed to restore steelmaking at Lorain. A fire, just



days before the scheduled start-up, made that construction a total loss. All steelmaking was destroyed at Lorain which had one of the two valid EPA permits for melting leaded steel here in the US.

The Republic Canton Plant was owned by a Mexican firm, Grupo Simec. They shut down all of the Republic non-Mexican steel operations last summer when they moved all orders to their newer plant in Tlaxcala, Mexico.

Link: [bit.ly/PMPA-PM0225a](https://bit.ly/PMPA-PM0225a). The Republic Canton Meltshop had the second EPA permit for melting leaded steels.

All 12L14 and other leaded grade SBQ (Special Bar Quality) bars that I know of in our shops are imported as hot rolled bars for cold drawing by US or Canadian cold finishers from European sources — Germany and Great Britain being the primary countries of origin to my knowledge. There are supposed to be some changes in the British Steel Industry as they try to wean themselves off of Blast Furnace BOF production (Port Talbot) for “carbon / climate reasons” which I expect could take the Brits out of the 12L14 game for more than a couple of years.

Link: [bit.ly/PMPA-PM0225b](https://bit.ly/PMPA-PM0225b).

Currently, the U.S.A. has Tariffs imposed on steel bars coming in from overseas under Section 232. According to the U.S. International Trade Commission, the tariffs increased the average prices of steel and aluminum by 2.4% and 1.6%, respectively, disproportionately hurting “downstream” industries that use steel and aluminum in their production processes. Despite no domestic source of leaded steels, our imports of leaded steel are still covered by the tariff “to protect” domestic industry.

The re-election of Donald Trump has ensured that tariffs

will be a major policy in the new administration. So now that we are forced to purchase leaded steels overseas, because there is no domestic melt source, we will be forced to pay even higher prices due to cost off shipping, current tariffs and expected new additional tariffs. If our domestic cold finishers can find leaded hot roll to cold draw for our shops.

So, I am no longer as bullish about the prospects for leaded steel availability in the United States. To the best of my knowledge, we have lost all domestic melt capacity for leaded steels. Great Britain is closing their leaded steel producing operations for at least a year. And importing leaded steel — regardless of supplier or country of origin — will result in much higher costs due to transportation, ongoing and increasing tariffs. We have yet to see how proposed Carbon Border Adjustments, or “Carbon Taxes” will impact the market or availability.

If there was a hope, it would be that under the new administration, U.S. steelmakers might find an opportunity to apply for a permit to produce leaded steel bars for machining. Quite unlikely. So, I would advise all of us, as precision machining shops and purchasers of precision machined components, to start researching to develop process modifications and investigate available steel grades, new tools and coatings that we can adopt to deliver similar performance and economics as our traditional leaded steels continue to decline in availability and application, while increasing in price. **P**

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