

No Lead Pricing Impacts

January 4, 2014 is the effective date of the Federal No Lead Law that requires any brass product installed in a potable water system to be manufactured using no lead brass/bronze alloy. These materials are more expensive and impose a series of challenges for manufacturers, significantly raising the production costs of the finished product. The pricing differential for standard versus no lead brass/bronze material is from 25% to 50%.

For any manufactured product, there are three major factors that determine the product's manufacturing cost and ultimately, the product's price: The cost of material alloys, the cost of labor/machine time, and scrap costs.



Unfortunately when comparing the new no lead alternatives to the current standard brasses and bronzes all three of these items are negatively impacted. Below is a detailed explanation as to why each of the three factors drive costs to be more expensive than what exists today with standard materials.

(1) Cost of Brass and Bronze Alloy Materials

Typical standard brass / bronze material makeup

When ingots are cast or rods are formed with standard brass and bronze materials, they are made from three material sources: manufacturing recycle (scrap), post-consumer scrap (least expensive), and virgin material.



Typical no lead brass / bronze material makeup

Because there is no current process known to remove lead from brass or bronze alloy, standard brass and bronze manufacturing recycle and post-consumer scrap cannot be used. This limits manufacturing chip material (scrap from machining or cutting) to no lead brass processes only and it must be isolated and handled separately in order to prevent contamination from standard brass process chips containing lead. It also eliminates all but pure copper sources, such as copper wire and copper pipe, for post-consumer scrap. No other brass / bronze sources can be used. This has a severe impact on the costs as depicted below.



Two to three times as much virgin material is used in making no lead brass and bronze ingots or rods versus recycled and scrap material. Virgin material is the most expensive of the three material sources; therefore, a 25-45% increase in the alloy costs to the manufacturer is typical.

No Lead Finished Product Price		
(1) Alloy Cost + 25% to 45%	(2) Labor/Machining Cost	(3) Scrap Cost

(2) Cost of Labor/Machine Time

Lead was introduced to brass and bronze alloys decades ago to aid in manufacturing. Over 90% of today's current brasses and bronzes contain lead. Manufacturing and production costs rise dramatically when using no lead brass and bronze alloys.

Without lead in the alloy, manufacturers are forced to change out tooling 2 to 3 times as often due to wear, even when running machines one-quarter to one-half the standard speed. That is, if a machining process could complete 100 parts in an hour with standard brass or bronze products, it can now only produce 25 to 50 no lead parts in that same hour. This in turn doubles or quadruples the manufacturing costs (200-400%)

No Lead Finished Product Price		
(1) Alloy Cost + 25% to 45%	(2) Labor/Machining Cost + 200%	(3) Scrap Cost

(3) Scrap Costs

For decades, the price paid for brass and bronze alloys was discounted by 30-40% based on the adoption of a "recycle" program. As long as all the manufacturing recycled material was returned to the material supplier after the manufacturing process, the initial purchase price was discounted based on the typical material return rate. Today, most suppliers are not offering a no lead brass/bronze alloy buy-back program forcing the manufacturer to pay full price for the more expensive no lead materials. Therefore, it increases the manufacturers' costs by approximately 30%.

No Lead Finished Product Price + 25% to 50%		
(1) Alloy Cost + 25% to 45%	(2) Labor/Machining Cost + 200%	(3) Scrap Cost +30%

The end result is the no lead brass/bronze alloy valve or fitting is **25% to 50%** higher in price than the comparable standard product you are purchasing today.

Please visit Legend Valve and Legend No Lead websites for more information and how you can begin your transition to be ready for the new Federal No Lead Law.

For any questions, please call Legend at 1-800-752-2082 or visit us at: <http://www.legendnolead.com>