ADMIRAL METALS

www.admiralmetal.com

This illustration shows catastrophic failure of a part post production due to excess contaminants in the brass. Click image to enlarge

Getting Down to Brass Tacks on Quality

Brass has a long history as a manufacturing metal of choice because of its machinability, strength, ductility and corrosion resistance, along with its relative low cost and broad availability. Its favorable economics are due in large part to the highly recyclable nature of brass. In fact, ninety percent of brass sold in the US [from both domestic and international sources] is recycled. However, the process of recycling of brass has been a growing challenge in recent years. The chemistry and composition of brass can be changed over time because of inadvertent contamination of the scrap stream with inferior quality brass along with other metals, such as steel, tin or iron. Contamination such as this puts the consistent quality, machinability and strength of brass at risk.

Complicating potential quality issues with brass is legislation concerning its lead content. Lead has historically been added to enhance machinability, up to 3.7% in C 36000, an alloy comprising 80% of brass sold in the US, commonly used in plumbing for drinking water. This alloy will be markedly affected by a recent amendment to the Safe Drinking Water Act, restricting lead content to 0.25% (as of January 2014), similar to a current California law in effect, AB 1953. The industry is faced with the need to lower lead levels to match those defined by this legislation, greatly affecting the chemical and mechanical make-up of brass.

As is true in any industry, obstacles lead to innovation. There are now two "brass rod" alloys that are closely related: C 36000 and C 36010. The new alloy C 36010 was created with a lead range of 3.1 % to 3.7 % for those customers who still need higher lead content for their applications. C 36000 continues to be the standard "brass rod" of choice for customers needing to have both high machinability and stay within the guidelines. These two alloys, however, are easily confused; customers now need to specify which is appropriate for their needs.

In addition, we are seeing increased use of silicon, bismuth and antimony. While these elements may serve as excellent lead replacements for some applications, not for all, and when added to improperly separated scrap, contamination issues multiply. Even when found in trace amounts, brass from unknown and unproven mills may contain higher levels of lead or elements like antimony, known to cause cracking post production.

The answer lies in using industry recognized and trusted sources for supply, having confidence that despite meeting ASTM specs, the chemical and mechanical specification of the material is known and proven for its intended purpose. Questionable quality is a risk to everyone in the supply chain. For the machine shop or manufacturer of parts, substandard brass translates to difficult machining, costing time, productivity and money. Rejections and additional costs are more likely and perhaps the greatest risk is that defects and failures could show up when the parts reach the OEM or even worse, reach a finished product or the final consumer.

Critical failures do occur. While cost is always a factor, the risk of product failure from questionable material outweighs the lure of low cost metal from unknown and unproven mills. Only then can the end user be assured of a level of quality that is built in to the metal so that the risk to the supplier, the machine shop and the end user is managed and minimized. Admiral Metals is certainly committed to providing our customers with high quality, proven brass meeting the most updated specifications from known and reputable mill suppliers.

For more information about brass quality, call or email us at Admiral Metals. When it comes to buying metal products, it's important to us that our customers have confidence in the brass they buy, in Admiral Metals and in the mills we represent.

Wishing you the very best in business,

Jim B.

bursteinj@admiralmetals.com

We're proud to offer expanded inventory in premium grade centerless ground stainless steel rod and reground sizes from stock delivered in 24 hours.

At Admiral Metals, when we talk about Admiral Care, it's a promise to you, our customer, to listen, respond and help you face the everyday challenges of running your business with the utmost efficiency. That means communicating with one vendor who services both your standard products and your centerless ground materials, all ready to ship within 24 hours.

Trust Admiral Metals for the highest quality manufactured products ground to precision tolerances. Once again, the products you want from people who deliver.

Call 800.423.6472 Monday through Friday 7AM-5PM EST or email us for a quote. Or click here to get a PDF explaining more about centerless ground.

"I did it! I did it! I found a substitute for quality!"