“Caveat Emptor” (Buyer, beware)

The term “Pewter” as defined by the American Society for Testing and Materials (ASTM B560), is *any tin-based alloy containing between 90 to 98% tin, 1–8% Antimony, and 0.25–3% copper.* Nonetheless, many products in the marketplace are purported to be pewter even though the material is not consistent with the accepted industry standards set by ASTM B560. These common deceptions are confusing to consumers or end users.

This page is intended to educate and inform readers about the various uses of the term, *pewter* so better purchasing decisions can be made. We are not passing judgment. We are alerting readers to make sure they are aware of the products they are buying. A Certificate of Analysis or Conformance should be requested from suppliers to verify the material makeup of every product.

The following are some of the markets and products that often claim to be made of legitimate *pewter*:

Jewelry, Gift, and Novelty: While many of these items are made from pewter, be aware that they may not meet the standards for impurities considered *safe*, as outlined by either the Consumer Products Safety Administration or by the ASTM standard. While almost all metals contain some concentration of impurities, cadmium, lead, and arsenic may be present in concentrations known to be hazardous and they should be avoided. While regulated, foreign suppliers have been known to ship products into the US that do not meet these standards. If possible, purchase from manufacturers known to procure *clean* metals.

Hollowware: Cups, bowls, tankards, and trays all fall into the hollowware category. Since these vessels likely will be used to hold food and liquids for consumption, it is even more important to choose suppliers carefully. Over time, lead in pewter in concentrations over 500 parts per million (ppm) can leach out into food or liquids. Some items purporting to be pewter are recycled aluminum cans. Again—know the material makeup of the products being purchased.

Sheet Metal: Pewter by definition is a tin-based alloy, yet we have seen the term applied to zinc sheets, presumably to improve the *cache* of the material. While zinc may be similar in color to pewter, time will tarnish and dramatically change the color if left unprotected. That's why we emphasize—know the material makeup of the products you are buying.

Countertops: This is a relatively new market in the United States. In Europe, countertops have been made from pewter alloys for centuries (if you believe the marketing hype). To date, we've seen three methods of manufacture; coatings, casting, and metal sheet, all claiming to be *pewter*—you decide.

Coatings: Metal particles are applied to a substrate to give the appearance of a solid metal surface. This low-cost way to create complex shapes is typically used for edge details. E.g., a wooden trim piece, such as a crown molding may be coated with metal particles to give the appearance of a solid edge detail. Application methods include coating with a slurry of metallic particles suspended in a resin binder, or thermal spraying, a process that uses a heat-source to convert metal powder or wire into a spray of molten particles. Surface finish is typically porous, and appears cast. Frequently, the surface is colored, or a patina is applied to make it appear *aged*. We have seen several examples of countertops produced using these techniques that have cracked, been chipped, or worn down to the substrate with use. They are generally low-cost but don't appear to be repairable.

Casting: European fabricators have used this method for many years. Molten metal is cast into large shallow molds producing panels that are then placed onto a support structure, joined by melting pewter rods into the gaps between the panels, then planing these panels flat. Edge details are produced in a similar way and may contain three-dimensional details. Surface finishes can be smooth or porous—heavy, labor-intensive and expensive.

Sheet: As the name implies, counters are constructed from multiple panels of varying sizes of rolled sheet pewter. Panels are attached to a

substrate using adhesives, and gaps between panels are seamed using either solder or pewter trimmings. By forming sheets over a substrate, edge details are created, sometimes in combination with cast details adhered to the surface. The surface texture appears solid, not porous, and finishes can range from highly polished to satin or matt. The material can be left untreated to soften the color with time or treated with patinas to further darken the finish.