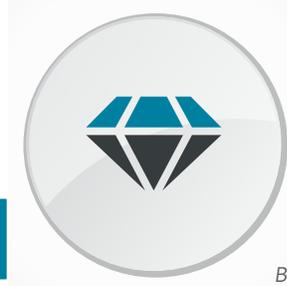


THE GROWING NEED FOR THE VERIFICATION OF PRECISE JEWELRY COMPOSITION



By Jonathan Margalit, PhD

Editor's Note

One of President Reagan's best lines was: "Trust but verify." Today, jewelers need more than ever to know and trust their sources. A business relationship is all about trust. Vendors who have been your suppliers for years, with whom you've developed a relationship, are less likely to cheat. Similarly, in today's market more consumers have sold jewelry to retailers for cash. The article below introduces the second part of the Reagan quote: verify. FD

The need for the precise verification of jewelry composition has never been greater than it is today.

First, the global jewelry market is projected to continue growing at a healthy rate. By the end of 2019, the market will be valued at \$407.5 billion. As the jewelry industry grows, so will the demand for more jewelry verification.

In addition, according to research by McKinsey & Company, two of the five major trends that are shaping today's jewelry industry include the move towards internationalization and consolidation, and the growth of branded products. The former means that a handful of national or regional jewelry brands will join the ranks of top global brands by 2020; jewelry brands from anywhere in the world will be selling and competing against top global brands. This necessitates a tightening of verification processes as the geographic range for high-profile jewelry production expands. The emergence of new brands also increases the odds that they may be ripped off by jewelry counterfeiters, as the nuances of newer brands may not be as well known as the more established types.

Meanwhile, the shift toward branded jewelry suggests that, by the year 2020, 30-40 percent of jewelry is expected to consist of branded items, up from 10 percent in 2003, according to McKinsey & Company. As the amount of branded jewelry circulating in the market grows, there is an increasing need to verify that jewelry is not only real, but also that it is being marketed as the correct, specific brand.

The growth of so-called secondary jewelry manufacturing, which refers to the usage of existing jewelry as a raw material to manufacture new pieces, has also greatly increased the need for precise verification methods. This practice involves the collection and sorting of jewelry items and mixing them with virgin raw materials into the melt to produce new jewelry according to customer specifications. Now, in many cases, the origin and composition of the incoming jewelry is unknown and needs to be verified.

Unfortunately, the growing need for verifying the origin and composition of jewelry is compounded by the fact that more and more jewelers are falling victim to fraud and scams. The thieves and criminals who are involved in these scams are becoming increasingly sophisticated.

There are known cases in which certain types of stainless steel jewelry were marked as 18K gold and even passed the acid test, even though they contained little to no gold. In one recent incident, a pawnshop owner was duped into buying \$2,000 of fake gold beads. He used the magnet and acid tests on one of the beads in the strand and it passed both tests. However, he didn't test any of the other beads and it was not until after he had paid the customer that he realized a majority of the beads on the necklace were fakes that had simply been plated in gold.

In another incident in Arizona, six men were arrested for selling an estimated \$150,000 worth of fake "white gold." They fooled dealers by stamping stainless-steel jewelry with 14k, 18k and .750 identifiers.

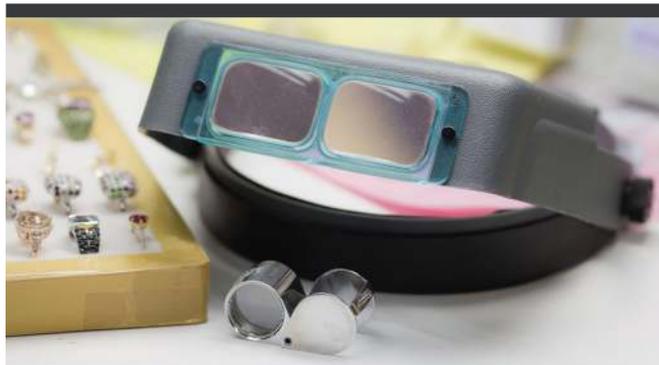
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Another growing type of fraud is known as under-karating. Despite laws attempting to prevent the practice, merchants advertise and promote sales of gold at higher – sometimes significantly higher - karat levels than the gold's true makeup.

These trends and developments are likely to have a considerable impact on the entire jewelry supply chain. Under the increasing pressure to deliver consistent product quality across distant regions in a timely manner, jewelry manufacturers will have to optimize and perfect material handling procedures within their supply chains. Manufacturers and retailers alike will need to install multiple check points to ensure quality and consistency from the moment of raw material selection and production of the pieces all the way through to delivering the final product at the point-of sale location.

The jewelry industry deploys several common commercial methods to determine the composition, value, and authenticity of jewelry. Jewelers, manufacturers, pawnbrokers and others who trade in precious metals must adopt testing methods that are cost-effective, easy-to-use, and accurate for their particular operations. As the need for jewelry material verification grows, it is important for those working in the precious metal industry to understand the testing options available to them and which methods will best fit their needs.

Author's note: This is the first article in a series of four that will review some of the precious metal testing methods currently used in the industry and give an overview of their advantages and disadvantages. Some of the methods that will be covered include fire assay, acid tests, electronic testers, and XRF (x-ray fluorescence). In the final article, special consideration will be given to numismatics professionals.

"Global Jewelry & Watches", Marketline Industry Profile, March 2015.



By Jonathan Margalit, PhD

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