TO THE SOURCE

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The Collaborative Duo Behind ***Bario-Neal*** *(*formerly RUST-BELT)

We recently started a research blog after so much frustration researching the materials for our first collection. Suppliers, processors, and other jewelers were often unwilling to discuss their materials and manufacturing methods. We hope that our research will be useful to other designers and help to create a more transparent jewelry manufacturing industry. The below information is some of our initial postings. We will continue to update. If you have any relevant information that you would like to post or any questions please contact us through our website

Challenges

We've been struggling with this question: Do we work with small, family-run businesses that produce minimal waste but don't have the resources to invest in a more environmentally conscious approach? Or is it better to employ larger businesses that have the money to make significant progress in the social and environmental aspects of their operations? We are trying to do both. We support local businesses and talk to them about our concerns, emphasizing that there is a market for ethically sourced materials. We also work with larger companies that have the capability to offer conscientious and eco-friendly processing and materials. The situation isn't ideal, we know.

What We've Learned About Refineries

Over the past year we have researched refineries that use only recycled metals and "fair trade" metals, determined to find a local refinery that we feel supports our principles.

We've found that the majority of refiners will say that they use mostly recycled metals. This is true, particularly with precious metals. Precious metals are just too valuable not to recycle. However, usually not all the metal is reclaimed. Typically, reclaimed metals are mixed with new metals, which are purchased from large metal companies. It's often unclear where these metals are coming from.

Once metal is melted down together, it's more or less impossible to trace its origin. This is why we think it's crucial to establish national standards for recycled and fair trade metals. Too much responsibility is placed on the consumer and currently, it is nearly impossible for the end user to learn about the material's history.

We've toured and researched refineries that we think are taking more progressive steps towards creating ethical guidelines for metal production. However, we haven't found one company that has met all of our standards. It is important to continue pressuring these refineries to take larger steps in establishing a model for ethical metal manufacturing. Below is information on two refineries in particular: Hoover & Strong and Precious Metals West.

Last summer we toured the Hoover & Strong Refinery in Richmond, VA. Hoover & Strong maintains a set of guidelines to ensure that their metals are ethically sourced. They use recycled metals (when specified) and refining processes that create fewer waste products than standard refining techniques. Their website is a good source of information. They don't make recycled chain, and they may be expensive for independent jewelry designers.

Another refinery we think is doing good work is Precious Metals West, located in Los Angeles. While Precious Metals West is a smaller company than Hoover & Strong and may not have the resources to be as progressive in terms of equipment and their manufacturing capabilities as Hoover & Strong, they are very flexible and open with their information. Precious Metals West will allow you to source your own metals (either recycled or purchased from a responsible mine) that they will then refine for you. Precious Metals West currently has a large supply of reclaimed gold, but not silver. You can sell back your jewelry to both of these refiners.

We are really trying to encourage refineries who have expressed interest in ethical metal manufacturing to begin producing recycled chain. Contact us if you want to sign the petition for recycled chain.

What We've Learned About Plating

We first considered plating so that we could use vintage, non-precious metal for some elements of our first collection. We could enhance the elements by plating them in precious metals, but still use a great deal less gold. But plating is a dirty process. We wondered: Is it better to use less virgin material when we are incorporating a process that involves caustic chemicals?

In electroplating, an electric current is passed through a solution that contains dissolved metal ions and the metal object that will be plated. The metal object serves as the cathode in an electrochemical cell, attracting ions from the solution. Generally, metal objects are dipped into a series of baths that contain various reagents to achieve the desired surface characteristics. A plating sequence usually involves several steps of cleaning, rinsing, stripping, and plating. In electroless and immersion plating, the process is similar but the metal coating is deposited onto an object using a chemical reaction rather than an electrical one.

The most harmful by-products of plating are the sludge and wastewater that contain the chemicals used to clean the metal prior to plating. After plating, the aqueous solution used for plating baths is wastewater containing cyanide and metal wastes. Fortunately, working with valuable materials encourages precious metal platers to recapture any metal that might escape and hopefully dispose of the remaining solution according to relevant laws. Small-scale platers generally have an easier time handling their wastewater than larger, high-volume companies. They may have permits like a small science lab and pay for their municipality to handle the water treatment for them.

As jewelers trying to learn the source the metal we use, we run into a familiar problem in plating. Companies do not to trace each source of metal. It all goes into a big plating solution batch together. Again, the vast majority of precious metal is recycled because it is far too valuable to waste. The larger plating companies we spoke with told us that about 90 percent of all gold on the market is recycled. But again, they don't track the source of the metal they use. They buy their solutions from chemical companies like Technic or Advance Chemical that buy it from…who knows.

In our research of plating companies, we talked to a lot of environmental organizations to get a clearer picture of precious metals plating and its negative environmental impact. Compared to other types of plating, precious metals plating has a pretty good reputation with the waste prevention agencies, largely because the companies keep close tabs on such valuable materials.

No one we spoke with could recommend a plating company with a better than average track

record. Northeast Waste Management Officials Association, NEWMOA, was the most helpful.

They suggested that people ask the following questions of a plating company before you buy:

- Has the company implemented any pollution prevention steps?
- Is the company doing anything to learn about pollution prevention steps they might take (e.g., an environmental audit)?
- Can the company cut back on water use?
- Does the company employ counter-current rinsing (this is a technique that requires less water)?
- Has the company explored any alternatives to chlorinated solvent cleaning?

Other plating resources online:

Check the EPA Enforcement and Compliance web site, where you can find the enforcement history of a company and see if they have been non-compliant or penalized.

The Pollution Prevention Resource Exchange has a Metal Finishing Topic Hub with lots of information, and a reference section with over 100 articles on metal finishing.

The National Metal Finishing Resource Center is a national compliance assistance center partly funded by EPA to help metal finishers improve their compliance with environmental regulations: