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Get Higher Returns from Your Sweeps

A 5-STEP GUIDE TO MAXIMIZING RECOVERY & RETURNS

You know precious metal fines lurk in every corner of your shop. You scour your work surfaces, clean out your sink traps and even tear up the carpeting every few years, sending it all to a refiner and hoping for a worthwhile return. But are you doing everything you can to recover that valuable "bonus" metal? Here are five steps to ensure you're getting value from every square inch of your manufacturing facility.

1. Don't leave money on the bench.

Maximizing your refining returns starts with maximizing your collection of precious metal debris—in bench sweeps, floor sweeps, polishing dusts, ultrasonic sludge, and other areas.

Here are some tips for capturing as much precious metal as possible:

- Designate vacuum cleaners specifically for collecting bench and buffer sweeps, so the concentration of precious metals is not diluted with other debris. Make sure the vacuums use HEPA filters, which can easily be sent to a refiner.
- Install commercial sink trap systems designed to recover fine particulates from wastewater.
- Cover wooden floors, which have cracks that easily trap and hold precious metal fines. Carpets or linoleum flooring work well, since they can be sent to a refiner for metal recovery. Consider using carpet remnants in areas that produce large quantities of dust, like in front of the buffer—you can send out remnants easily and more often than carpeting.
- Replace wooden bench tops with nonporous material. And when it's time to replace the bench, send the old one to the refiner. Or, if you prefer to keep the wooden top, periodically sand down the top layer and collect the resulting wood dust.
- Filter solutions from ultrasonics, steamers and plating units. In *Jewelry Metals: A Guide to Working with Common Alloys*, Jim Binnion suggests using a coffee filter to strain used solution into a container, then using paper towels to wipe the remaining sludge out of the solution tank. Be sure to include the coffee filter and paper towels with your sweeps.
- Place floor mats at the exits of work areas that generate a lot of dust, to collect precious particles from the soles of shoes. The mats can then be sent out for refining.
- Remember that masks, gloves, aprons, and shop towels can all collect precious metal fines. Rinse or wash them regularly in dedicated sinks with filtration systems, and be sure to include them in your refining lot when it's time to replace them.

2. Invest in professional equipment.

Consider investing in specialized dust collectors and precious metal recovery systems to maximize your capture of superfine filings and sweeps. This equipment also helps keep your work areas clean.

These systems range from compact bench dust collectors to semi-enclosed work chambers, table-top polishing cabinets, and high-capacity dust collectors with powerful suction and ultrafine filters. Recovery systems that are adaptable to various vacuum units can be more cost-efficient for smaller jewelry manufacturers. Remember that all vacuum filters, along with buffing wheels, can be sent to a refiner.

Sometimes, sourcing outside help to collect debris can be cost-effective. For instance, if you're not ready to incur the cost of carpet replacement, you can hire a carpet cleaning service to do a deep clean and give you the residue.

3. Home in on your best sources.

Evaluating your internal systems can help you identify areas where precious metal collection could be improved. One way to do this is by segregating material collection into separate streams and monitoring the results that come back from the refiner. Are you capturing more or less metal in, say, your polishing stations or dust collectors? Once you've identified underperforming areas, consider investing in equipment or processes to improve collection.

Don't forget the human piece of this equation. It's crucial to train your employees in proper collection practices, to ensure they don't do things like mopping the floors and dumping waste-water down unfiltered drains. Everyone on the manufacturing floor should understand their impact on, and responsibility for, recovering precious metal debris.

Keep The Junk Out

Be sure to keep garbage like soda cans and tools out of your high-grade sweeps. It adds to the weight of your lots but doesn't help with refining, and may even cost you money by diluting the material. Some refiners will charge higher fees and give you less metal accountability if your lots are too diluted. It's better if a refiner can get to work without having to first remove extraneous material.

4. Segregate precious metals.

Segregating metals makes your refiner's job easier and produces a better return. Mixed metals and materials require extra steps in refining, which can result in higher processing costs for the refiner and a smaller payment percentage for you.

- Keep sweeps containing gold and silver separate from sweeps with platinum group metals (platinum, palladium and rhodium).
- Segregate higher-grade bench sweeps from lower-grade floor sweeps—as the precious metal percentage goes down, so does your return. For instance, you could have 98% gold content in high-grade sweeps, diluted down to 90% by mixing with a low-grade lot. Because it's more difficult to separate out the precious metals, the value of your lot is reduced.
- Remove ferrous metals such as iron and steel from your lots using high-power rare earth magnets.
- While larger manufacturers may designate separate parts of their facilities for different types of metal, this isn't an option for some smaller shops. In that case, it's a good idea to do a deep cleaning as you switch from one metal to the next, to avoid contamination. Store the debris separately, adding to the designated lots each time you clean.

Segregating lots by metal types is not always cost-efficient for small manufacturers, since the fees for processing individual lots may be greater than the returns. For larger-volume sweeps, however, it makes good sense to segregate.

5. Don't get lost in transportation.

While this might sound obvious, we've seen sweeps containers arrive in less than ideal condition, putting the contents—and the customer's return—at risk. Make sure containers are tightly sealed, and consider covering cardboard boxes with plastic wrap. (We've received gaylord boxes that were punctured in transit and leaking precious materials.) Some manufacturers ship refining lots in metal drums with serialized tags and security devices, to ensure the containers stay closed and the contents are accounted for.

While it's a good idea to post weights on the outside of each box or container, avoid writing things like "gold sweeps" or "high-value lots" (yes, we've seen that, too.) For security purposes, it's better not to tell people what's inside your containers.

Remember that sweeps containing hazardous materials are subject to transport regulations. Be sure to work with reputable transport companies that can help you identify hazardous materials and abide by the regulations, to protect not just your sweeps, but also your business.