# Finisher's Think Tank



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#### Has this been a good year for business? Most of us have probably experienced the "ups and downs" of the past 12 months. Manufacturing and support metal finishing operations have run promising stints, but not anywhere near the expected, continuous pace. Nevertheless, we focus in keeping process lines, equipment, and assorted baths in working order, anticipating a busy, productive new year. Good occurrences, such as rolling back MP&M, and a promise of stock market stability, remind us to be ready. Let s check on some areas that may benefit from practical attention, as the new year rapidly approaches.

# Equipment

Finishing cycles and processes rely on optimum performing equipment. Manufacturers and supplier representatives provide recommendations for maintenance, repair, and replacement of critical parts and units. Check your records for the information. You may be surprised to confirm valid, existing warranties and guarantees. In some instances service contracts place the responsibility for equipment care with certified factory and independent technicians. This makes needed maintenance part of a routine schedule.

Line personnel and equipment operators offer first-hand, reliable input for repair, replacements, and tune-ups. Action items may include any of the following: Racks may be worn or show cracked insulation or excessive deposit buildup. Barrel perforations could be predominantly plugged, danglers worn or excessively plated, or the barrels could be partially cracked. Tanks may be bowed, leaking, with cracked and torn liners. Coils might be corroded, heaters unreliable, thermostats off calibration. Chillers are essential to temperature sensitive processes, such as anodizing. Cooling is not warming. Hard working rectifiers need

# End-of-year Note: Check Equipment & Processes

adequate cooling. Check for AC output, working shunts, functioning legs. Are contacts solid and clean? Does buss cable get hot during use? Is the amperage reading accurate? Drop load test return type plating machines, checking for any insulated stations.

Filters can be a plating tank s best friend. That is, if they are maintained properly. Check to see if the manufacturer's suggested loading of carbon, filter aid or related purifying agent is being used at the correct dosage. Suppliers stock replacement parts, usually off the shelf, for quick delivery. Perhaps you ve located a tank that needs a filter. Shop around. Suppliers are competitive. During the last few years, the practice of filtering cleaners has become a costeffective maintenance procedure in some installations.

#### **Cast Your Nets**

Maintenance work can get very involved. Plan on taking a break. It might be a good time to go fishing. That is, fishing for long lost parts in that sea of process tanks. You d be surprised what gets hooked. Without bait! Schools of ferrous and non-ferrous parts may be plentiful. I ve retrieved nickel foils that once covered zinc diecast parts. Unfortunately, corroding parts contaminate plating baths. Accumulated parts may bridge, resulting in bipolar conditions. Counting parts and dragging tanks should be routine. This frees the plater s time to leisurely pursue sport fishing.

### Concentration

Process baths, from surface preparation to plating and specialty treatments, operate best when the concentrations of the constituents are in range. Confirm by analysis what it is and what it should be. Suppliers offer technical service and regional service labs for this purpose. As an alternative, upgrade your in-house lab or set one up for quick analysis checks on-site. Proprietary chemicals typically conform to specific purity standards. Be just as selective when purchasing commodity chemicals.

## Contamination

Every bath is exposed to some level of organic and metallic contaminants. How much of each contaminant is specific to the particular bath. Oils and grease in cleaners may be removed mechanically (e.g., skimmers, coalescers) or chemically split out. Perhaps the levels are too great, and the cleaner must be replaced with a fresh make-up. Plating baths usually respond positively to needed purification procedures. Depending on the bath, the magic bullet may consist of any of the following alone or in combination: dummy electrolyzing, carbon, peroxide, permanganate, proprietary purifiers, heating, chilling. The right treatment at the optimum dosages, based on analysis and examination of the problem, usually sets the bath straight. Year s end normally offers a window of time to implement the needed purification procedures.

# **Enjoy the Holidays**

Are we an important part of manufacturing and service life of finished products? Absolutely! Fighting rust and corrosion has a major influence on our industry. A recent study estimated the annual direct cost of corrosion in our country is a whopping \$276 billion. That bites into three percent of our GDP (gross domestic product). There s a lot we, as unified metal finishers, suppliers, and researchers, can do for our industry that will benefit the overall economy. *P&SF*