Finishing Philosophy by A F Kenton

As in life, there are several ways to achieve the same thing. The big question is how you get there. That is the question faced by a lot of people using vibratory deburring/polishing mills (tumblers).

The major factory dominating finishing systems is the cost of the finished part and that is determined by time. However, another factor to consider is quality of both the finished product and the overall impact on one's environment and /or life style.

In mass finishing or vibratory finishing, there are two basic choices. Wet, or dry? Because of the time factor, most people will only consider the wet processing systems, but when it comes to final finishing, there is a growing tendency to use the dry organic systems. Therefore, it is not so simple a matter of either or, but both, and that usually means the need toward more versatile equipment or the use of several smaller machines than the much common large equipment.

The most common practice in use today is the wet system which utilizes a perform shape called media and a liquid which is predominately water with a chemical additive. The chemical is necessary to help the media and the parts stay clean and fee of contaminates such as oils, soils, and material fines. Sometimes the chemical does have some effect on the material, such as leaving a protective film or even brightening the materials, but these are only secondary functions. The more chemicals and/or additives you put into the process the more complicated it becomes to remove or dispose of waste products and residues.

In a dry system the dominate media us usually a dry organic shell or wood saw dust impregnated with liquid additives. Normally these additives do not affect the dry character of the media. If the wood saw dust compounds are the choice process, then a wood shape is also used to provide some weight and speed to the operation in a part A and part B mix ratio of 5 parts wood shape to 1 part saw dust compound; therefore, the additive chemicals are really a minor factor in this process.

Both processes are only as good as the operator of the equipment, and the equipment has a lot to do with the finish. But the person makes or breaks the processing system. There is nothing wrong with either method if certain guidelines are followed. Where it becomes a little tricky is in the preparation and clean up after the processing which is usually completely ignored.

` Multiple machines dedicated to a single process simplify maintenance problems; however, it is not always cost effective to do that. Ones biggest concern is just good housekeeping or maintaining the cleanliness or integrity of the equipment and processing media. Avoid cross contamination. Do not use media that processed carbon steel to process aluminum, or you may end up with aluminum parts having rust spots on them.

In either wet or dry systems, you have a potential pollution problem of either the water or air. Unless you have a closed loop system of re-circulating the liquid or trapping the air, you must take added precautions. With liquids that problem is intensified because you must now know what chemicals you are dealing with before you can treat them and/or dispose of them. With dry systems, a sealed process is necessary to avoid a dusting problem of air borne particles. Because there are more rules and regulations governing liquids, dry processing systems are gaining a lot more popularity.

Anyone familiar with mass finishing systems know that there are a whole lot of variations within either of these two processing systems. The biggest factor being, “what do you want the finished part to look like”? If you are only concerned with deburring a part, then you can get away with a one step process using one media. However, if you are looking for aesthetics or a fine quality finish, more than likely, you will want to consider using several steps and medias as your fastest way to achieve those results.

Step processing is much faster than a one-step operation where fine finishes or a pre-plate is required. This is true in both wet and dry processes. In most cases, a 3-step process using a course, medium, and fine variation of the same media is sufficient. In other cases, you may be able to get away with a two-step process using mixed medias, or a 5-step process maybe required for the best finish possible. In all cases, it comes down to, what you are looking for.

Our company, Nova Finishing Systems Inc., has prepared some standard packaged step processing kits for ferrous, non-ferrous, non-ferrous jewelry, plastics, ceramics, and wood materials. These are available in either wet or dry systems. For further information and pricing, please write or call 1-980-429-5773. If there are any questions or doubts, send us your part for our in-house evaluation and /or processing.

- Nova Finishing Systems manufactures small, heavy-duty bowl finishers that stack up to most of the big equipment on the market but cost much less. Nova series vibratory equipment also comes with the same warranties of the larger machines.

For more information on this equipment line, contact:

NOVA Finishing Systems
559 Crook Street
Hampton, TN 37658
980 429-5773 Tel,
704 665-5658 Fax
NOVA@LTSmachinery.com