VIBRATORY FINISHING

In vibratory finishing, energy in the form of vibratory forces is transferred by the machine`s drive system into a mass of loose media and then into the parts. The entire load is in motion at the same time so that the media act against the parts throughout the complete mass.

Elements. Basic elements of the system include the machine, the media, and the compound and or water solution. Selection of each depends primarily on the parts being run - that is, the type of parts: size, shape, and condition; and the work to be accomplished.

Primary functions of the media are to keep the parts separated during processing, to provide a cutting action for removing burrs or smoothing surfaces, and/or to brighten or clean the workpiece surfaces. The ratio of media to parts, by volume, determines the degree of parts separation; at high ratios, parts are well separated and have little contact. This is an important consideration when part finish is critical.

Role of compounds. Liquid compounds in wet processing, are used to keep parts and media clean, inhibit corrosion, lubricate, cut, cushion parts against damage, suspend tiny loose abrasive particles, and for such other specialized functions as foam control and to speed up drying. In many cases, the type of compound used and its degree of dilution with water determines the success or failure of the entire system.

Dry polishing with loose aggregate media, such as crushed corn cob or walnut shells, can be an effective method for polishing metal parts. The surface finish of the metal part to be polished is usually run in a wet vibratory process with a deburring media prior to the final dry polishing step.