

Rapid & Accurate Mixing Of Powdered Metals And Additives

The goal of the powdered metal blending process is to produce a uniform dispersion of additives (typically graphite, metallic stearates or other lubricants) while densifying and achieving a specified flowability.

Historically, the powdered metal industry has employed double conical or twin shell blenders to disperse various additives into metal powders. These mixers require very long cycle times (typically several hours) to achieve an acceptable mix. With a Littleford horizontal ploughshare mixer, you can often reduce these cycle times to half an hour or less.

Also low intensity tumble-type mixers have been used. These mixers rely on a relatively gentle, tumbling-type mixing action, allowing the batch to free fall upon itself. This method of blending is not well suited for mixtures containing components which vary widely in specific gravity or particle size. As a result, mixing time is difficult to predict and batch-to-batch consistency can suffer. In addition, the slow rate of power input to the batch prolongs the time required for densification.

Searching for more efficient mixing equipment, many users have switched to the Littleford ploughshare mixer. This is a high speed mixer designed to mechanically fluidize the entire batch.

The special mixing tools induce direct contact of the powdered metal and additives. The fast mixing and dispersing action puts work into the batch at a fast rate, quickly producing a uniform and homogeneous blend. This results in both densification and improved flow properties. The metals and additives can have a wide range of specific gravities without impacting the uniformity of the final blend.

This preferred mixing/dispersing technology also allows the user to determine the endpoint of the cycle accurately and reliably. Since the total net power input to the batch can be directly correlated to the required mixing time, the desired endpoint may be determined by monitoring the power consumption. This provides an easy and reliable means of automating the process.

Thus, Littleford ploughshare mixers offer an attractive, lower cost alternative to many traditional powdered metal mixing processes. The greatly reduced cycle times provide the benefit of smaller equipment and installation space requirements. Improving product quality while maintaining throughput rates in a smaller piece of equipment is a significant cost benefit.

In summary, Littleford ploughshare mixers offer proven, state-of-the-art powdered metal mixing technology. The superior Littleford ploughshare mixer produces powdered metal blends with the proper density and flow characteristics quickly, predictably and consistently.

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