

Quadro® Comil®

DELUMPING & DISPERSING BATTERY POWDERS

BACKGROUND/REQUIREMENT

The most common type of battery used today is the "dry cell" battery. There are many different types of batteries ranging from the relatively large "flashlight" batteries to the miniaturized versions used for wristwatches, calculators and digital equipment. Although they vary widely in composition and form, they all work on the same principle. A "dry-cell" battery is essentially comprised of a metal electrode or graphite rod (elemental carbon) surrounded by a moist electrolyte paste enclosed in a metal cylinder.

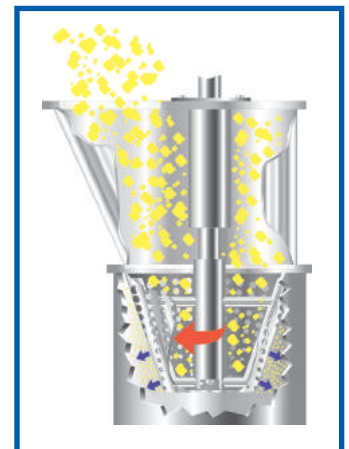
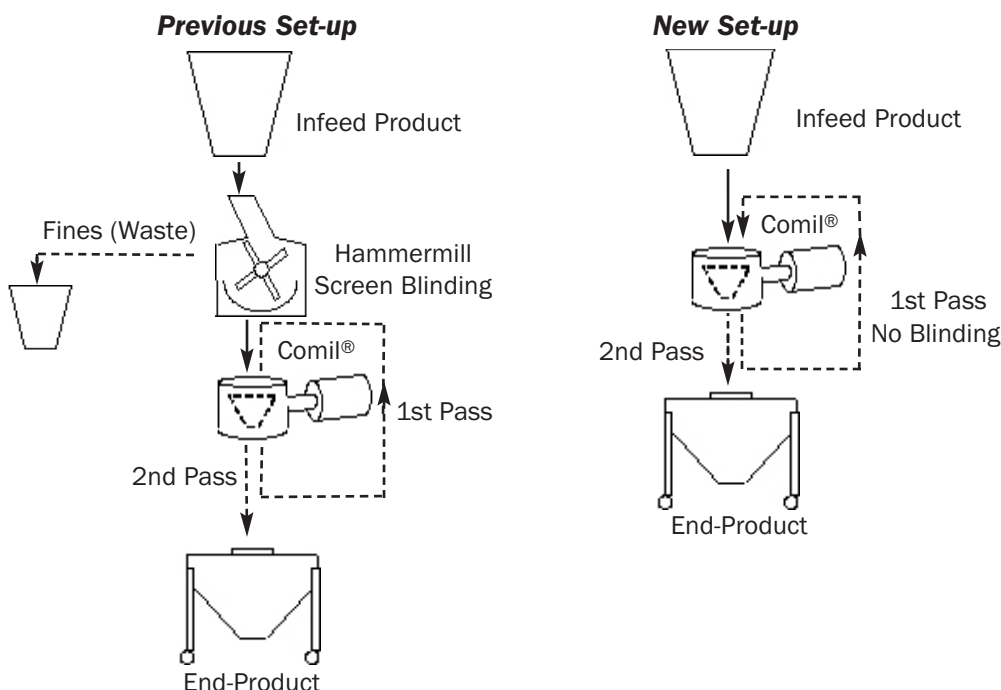
A large, international manufacturer of dry cell batteries approached Quadro to help them with the manufacture of their battery products. The battery employed several powder mixtures of Teflon, Carbon Black powder and 1/8" pieces of Graphite. The customer was getting 30% - 40% of the product below 60 mesh USS, by running a single-pass through a Hammermill and two passes through the Comil®. Heat generation in the Hammermill caused blinding of the screen which slowed down production of the batteries. The customer wanted to eliminate the Hammermill stage. The required capacity rate was 13 lbs/hr.

COMIL® PERFORMANCE

The product was control-fed into the Comil® and tested with various combinations of screens, impellers and tapered conversion spacers. By pre-milling the powders with a Quadro grater style screen followed by milling through a round hole style screen, the customer's requirements were met. Good flow to/from the Comil® was noted, with no build-up on the Comil® components and no screen blinding.

SUMMARY

This customer was able to use the Quadro® Comil® to eliminate the production line blockage caused by the Hammermill. The gentle, low heat action of the Comil® did not cause the powder mixture to heat-up and blind the screen.



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