STELLAR MANUFACTURING COMPANY, LLC

Compaction Granulation

Compaction granulation is the process of converting a fine powder or other material into particles of a consistent size and density range appropriate for its end use application. This is a common, but often overlooked, manufacturing process used to overcome a variety of product challenges such as flowability, attrition control, excess dusting and transportation.

Benefits of Compaction Granulation

Better Flow Properties

Particle based products are always on the move. Whether in a manufacturing process or as a final product, these materials are being poured, sifted and dispersed. A poorly granulated product can experience caking and clumping which can mean manufacturing downtime or a poorly mixed final product. By controlling for properties like density and size range through granulation, a product can be made to flow more evenly, reduce down time and improve product quality.

Attrition Control

A key feature of a well granulated product is how its constituent particles break or don't break. A poorly granulated product may break too easily, which in the case of a controlled released product is highly detrimental. A product with too much attrition can result in excess dust and waste. On the other hand, if a product's particles are too difficult to break it can lead to lumpier, less evenly mixed or dispersed products. Compaction granulation seeks to control attrition by ensuring the density, hardness and particle sizes are within a range that is specific to its end use environment.

Dusting Control

Excess dust is a concern when using powder based materials because it can cause serious health and safety conditions. Excess dust can also be an explosion hazard. Compaction granulation is an essential tool to minimize excess dusting. When a powder is properly granulated to the right density, hardness and particle size, it means that there should be less dusting when pouring or moving the product. This means less mess and less waste and a potentially safer and more efficient working environment.

Ease of Transportation

Properly compacted material can mean less volume and lower shipping costs. It can also reduce unwanted settling in combination products.

Compaction Granulation at Stellar Manufacturing

Stellar's compaction capabilities include fully integrated 50, 75, 150, and 300-ton compaction systems. Our granulation process allows our customers to choose particle size ranges specific to their product application. We perform particle enlargement or reduction in an integrated production system and can produce particles in the 70 mesh to 1/2" range. We also have a suite dedicated to materials which are a dust explosion hazard and manufacturing equipment with explosion proof motors.

1647 Sauget Business Blvd. Sauget, IL 62206 • Phone: (618) 337-1700 • info@stellarmfg.com • www.stellarmfg.com