



Formulated Products Pelletising Technologies Aesica Zwickau

Aesica Zwickau in Germany has many years of experience producing drug products based on an array of pelletisation processes. Some are not commonly available and they offer customers a wider range of opportunities for the cost effective scale up of pharmaceutical actives that are not suited to standard technologies. They also offer the potential for manufacturing unique formulations of an active ingredient that would differentiate a customer's product in the market.

Layered bead pellets

In this technology the active pharmaceutical ingredient in powder or solution is coated onto a core bead typically made of sugar and/or starch. By multiple layering with different film forming polymers different release characteristics can be achieved. Doses can be closely controlled and the technology produces round dense beads of even size and narrow size distribution which are dust free. This makes them easy to fill into capsules or compress into tablets. The dissolution profiles can be closely controlled by including less water soluble or enteric excipients in the coating layers.

At the Zwickau site coatings can be applied safely using water or solvents such as acetone and ethanol.

Equipment:	GS Coater
Batch size:	180 – 250 kg
Capacity:	35 tonnes / year

Pellets using extrusion/spheronisation

Moist powders containing the active ingredient are extruded and then spheronised into uniform beads on a rotating plate. The pellets are dried in a fluid bed and can then be coated for instant release, control release or enteric release characteristics. The pellets have a narrow particle size and so release characteristics can be closely controlled.

Equipment:	high shear mixer, extruder/spheroniser
Batch size:	250 kg – semi-continuous process
Capacity:	600 tonnes / year

Wurster pellet coating

This technology uses a Wurster coater based on bottom spraying. Compressed air diverts pellets away from the spray nozzle tip allowing optimal product movement through the spray zone and minimises the risk of any agglomeration. The technology is applicable to range of coating types which can impart, for example, controlled release or enteric coating. The process is ideal for ensuring even coating on pellets much smaller in size than standard tablets. These pellets can be filled easily into capsules.

Equipment:	6 x Wurster Coating Units
Batch size:	90 kg per unit
Capacity:	600 tonnes / year



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