

The influence of operational parameters and feed preparation in a convective batch ribbon powder mixer.

ABSTRACT

The results indicated that the homogeneity of the mixtures was influenced by the blender rotation speed and mixing time. Better mixing can be obtained with higher rotation speeds and longer mixing time. It was also observed that preblending and smaller feed particle size achieved the required homogeneity in a shorter period of time at a lower rotational speed. These results illustrate that using binders with a smaller particle size and a preblending technique improves the mixing process in a convective batch ribbon powder mixer. However, prolonged periods of high-speed mixing will lead to mixture segregation.

Keyword: Powder blending; Ascorbic acid; Rotational speed; Particle size; Preblending