

Abstract

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Title of the diploma thesis: A study of the compressibility and the properties of tablets from the coprocessed dry binder with mannitol for oral disintegrating tablets

This thesis deals with the study of directly compressible tableting materials and tablets with Ludiflash[®], which was intended for ODT formulation. The effect of three lubricants was evaluated on the properties of tableting materials and tablets. Testing lubricants were magnesium stearate, calcium stearate and sodium stearyl fumarate in concentrations of 0,5 and 1%. Flow properties, compressibility, ejection force, tensile strength and disintegration time of the tablets were tested. Energy profile of compression process was used for the evaluation of compressibility.

Lubricants did not improve the flowability of Ludiflash[®]. The total energy of compression increased with compression force. Its the highest values were at the tableting materials with 0,5% concentration of magnesium stearate and sodium stearyl fumarate, while the lowest values were at the tableting materials with 1% calcium stearate. The values of plasticity decreased with compression force and there was no significant difference between the type and concentration of lubricant. The ejection force increased with compression force. The addition of 1% calcium stearate had the most effective influence.

The tensile strength of the tablets increased with the compression force and the lubricants decreased its value with increasing concentration. The disintegration time of the tablets increased with the compression force, it was prolonged by sodium stearyl fumarate. The values of the disintegration time corresponded to the Pharmacopoeial limit for ODT formulation.