1 Abstract

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Title of Thesis:	Determination of the compressibility of excipients used for formulation of tablets with theophylline

The current thesis is focused on the compressibility properties of five powders used in tablet formulation: Comprecel, Spherolac, DI-CAFOS D160, DI-CAFOS A150 as excipients and Theophylline as the active substance. The particle size, moisture content, bulk density and flowability of the powders are determined. The powders are compressed and the results are evaluated by means of the parameters of the compaction equation and the force-displacement method (compression under 5, 10, 15 kN). Then, the crushing strength of tablets prepared from each powder by the force-displacement method is measured. The average values of the crushing strength are used to calculate the tensile strength of the tablets. Best compressibility is found in Comprecel and Theophylline with tensile strength values of 1.31 MPa under 5 kN, 3.31 MPa under 10 kN, 4.75 MPa under 15 kN and 1.02 MPa under 5 kN, 2.27 MPa under 10 kN, 3.09 MPa under 15 kN, respectively.