

Císařová Dana – Rigorózní práce – 2006

This work deals with the influence of the compression rate and time of constant load on energy balance of tablets. Theoretical part characterizes microcrystalline celluloses, describes theory of tableting and theory of the force – displacement record. The aim of the work was to find out the influence cycle rate on the force F_{\max} , influence of the cycle rate and dwell time on parameters of energy balance, influence of the cycle rate on mechanical resistance of tablets. The determination was carried out with tablets of microcrystalline cellulose Avicel PH 200 using T1 – FRO 50 device.

It follows from the results that the higher the cycles rate the higher values of parameters E_{\max} and E_{1-3} . Dwell time does not influence above-mentioned parameters. Radial strength des not change with the increase of cycle rate from 0.1 to 2 mm/s. Further increase in cycle rate brings about higher strength of tablets. Optimal cycle rate is 1 mm/s.