

SUMMARY

The aim of this work was to evaluate the use of creep test during the compaction of microcrystalline cellulose Avicel PH 102, lactose FlowLac 100 and their mixtures in rates of 75:25, 50:50 and 25:75.

Individual substances or mixtures were compressed by compression forces 0,25; 0,5; 1; 2; 3; 4; 5; 7,5; 10 and 15 kN. After the compression of each tablet a report describing the process of compression was procured. These dates were obtained by software connected with compression machine. Obtained relation between displacement and time was transferred to the relation between parameter J (creep compliance) and time. This relation was finally characterized by four basic parameters: E_1 (immediate elasticity), E_2 (retarded elasticity), P_1 (plasticity) and F_p (factor of plasticity).

From the results we can see that microcrystalline cellulose Avicel PH 102 compared to lactose FlowLac 100 has lower elasticity and higher plasticity. With the decreasing value of microcrystalline cellulose Avicel PH 102 in the mixture the elasticity is increased and plasticity decreased. Further was proved, that creep test method is usable in praxis for evaluation of pharmaceutical supplementary substances (fillers) used in the tablet manufacture. This test clearly valued the elasticity and plasticity by way of concrete numerical values.