

Abstract

This work deals with the study of the mechanical strength and disintegration time of tablets from co-processed dry binder Prosolv[®] EASYtab, a new type of directly compressible silicified microcrystalline cellulose, which contains microcrystalline cellulose, colloidal silicon dioxide, sodium glycolate and sodium stearyl fumarate. The results are compared with Prosolv[®] SMCC 90 and the physical mixtures of Prosolv SMCC 90 with Explotab[®] (1% or 1.5%) and Pruv[®] (0.5% or 1%). It also evaluates the mixtures with the active ingredients - ascorbic acid and acetylsalicylic acid. Tablets were pressed on the material tableting machine T1-FRO 50 Th.A1K Zwick / Roell, used compression forces were 3, 3.5 and 4 kN, in the case of mixtures of drugs 4 kN.

The tablets made from the substance Prosolv EASYtab possessed a lower mechanical strength than those from Prosolv SMCC 90 and physical mixtures of Prosolv SMCC 90 with Explotab and Pruv. The disintegration time of tablets was markedly shorter in the case of the substance Prosolv EASYtab than in Prosolv SMCC 90, the shortest being in the tablets made from physical mixtures of substances. Tablets with active ingredients were the strongest with Prosolv SMCC 90, at least with Prosolv EASYtab. In the comparison of the drugs, stronger and with longer disintegration time were tablets containing acetylsalicylic acid. Disintegration time with drugs was very short, the longest in the case of tablets from the pure Prosolv SMCC 90 and of tablets from mixtures Prosolv SMCC 90 with 1% Explotab and 1% Pruv.