Expected properties from concrete are changing with passing day as parallel developing technology and needs. Nowadays, also the needs properties of fresh concrete (such as high workability and the long times protection of workability, times the length of transport and forwarding, etc.) is changing as well as high performance in terms of hardened concretes such as high strength and durability, lowest permeability, etc. However, because of increasing the reinforcing bar in construction elements, the largest aggregate particle diameter rapidly was decreased. In this study, at four different times (at the 5th, 35th, 65th and 95th minutes after the mixing period) was measured that fresh concrete properties slump flow (diameter) values from self-compacting concrete mixtures as three different cement dosage (350, 400 and 450 kg/m³) and the largest aggregate particle diameter 16 mm. At the same time, samples taken from mixtures and molded at these times. It was examined that hardened properties of concrete such as compressive strength, ultrasonic pulse velocity, Schmidt surface hardness, as depend on molding time. According to the experimental data, loss of slump and strength were investigated.