Cake batters are essentially a ‘foam’, that is a system in which air bubbles are trapped and held in an aqueous phase. The main function of fat in cake making is to assist with the incorporation of air into the batter during mixing, and the air bubble size and stability. Textural properties are important quality parameters for this type of product. This study examined the influence of different types of fats in formulation of cake batter. Three formulation were evaluated: a standard (wheat flour – 19.6%, sugar - 19.6%, emulsifier - 1.5%, eggs – 19.6%, water – 11.7%, chocolate powder – 3.9%, milk – 2.7%, salt – 0.31%, vegetable fat or margarine or soy oil – 19.6%, and baking powder – 1.2%). Tests were performed using a texture analyzer TA-XT2 (Stable Micro Systems) with probe A/BE back extrusion; samples were at room temperature. Some parameters analyzed were higher to samples 1 and 3 than to sample 2: viscosity index - samples 1 and 3 (9.363 and 10.191 N.s, respectively), sample 2 (3.080 N.s); firmness - samples 1 and 3 (3.317 and 3.291 N, respectively), sample 2 (0.963 N); consistency - samples 1 and 3 (32.02 and 35.115 N.s), sample 2 (11.175 N.s). The break point to samples 1 and 3 (0.088 and 0.096 N, respectively) were lower than to sample 2 (0.938 N); it can be consider for the industry as an important parameter showing the need for less energy in their processes of pumping to lower yield values.