

**Production:** MUFFIN

**Objective:** Shelf life of muffins (Novo Nordisk (B974a-GB) modified version of the AACC method 74-09)

**Type of action:** Relaxation test

**Test setting:**

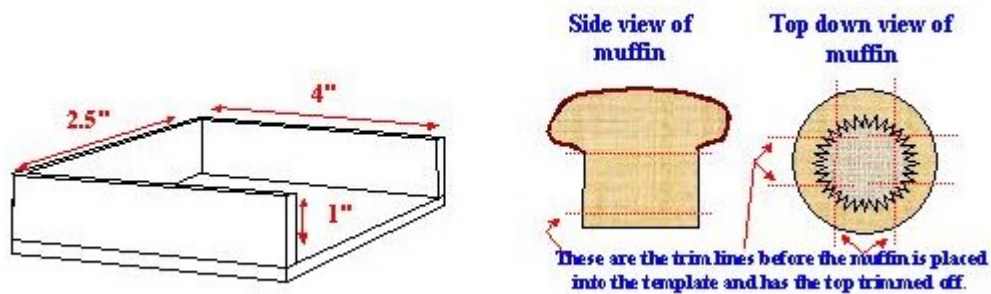
Speed	Test mode	Trigger	Target	Hold
1 mm/s	Distance (c)	5 gf	7 mm	32 sec

**Accessory:**

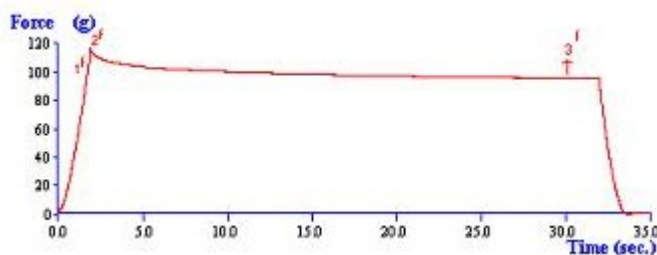
φ18 mm cylinder probe, Platform

**Sample Preparation:**

Cut the bottom crust and sides off the muffin to make a square shape approximately 1 inch by 1 inch. Place the sample in the plastic box with side walls 25 mm high to cut the top off the muffin. Compress 6 muffins per variable per test day. Use a macro designed to mark the forces at 6.25 mm, 7.0 mm and the force after the probe has been held at 7.0 mm for 30 seconds. The last force is then then expressed as a ratio to the initial force at 7.0 mm ( $f_3/f_2$ ) indicating muffin percent elasticity.



**Typical plots:**



**Data Analysis:**

- ☒ Max Force
- ☒ Force after hold
- ☒ Springiness Ratio

**Notes:**

- This method is from a collection of procedures for testing the texture of common bakery products with the Texture Analyzer. These procedures have been developed by and are used at the American Institute of Baking's Experimental Bakery Lab in Manhattan, Kansas.
- It is the philosophy of the researchers at the AIB to have extremely flexible protocols for texture testing. Bakery products come in every imaginable type and shape, so meaningful textural comparisons must account for the different product geometry's. These test procedures typically manage differences in geometry by reducing the products' size to a common denominator.
- Generally, the objective of most of these tests is to measure the firmness and shelf life of a baked product. Since the bulk of these protocols address sample handling, they can and should be modified slightly if the test objective is different (eg springiness, cohesiveness, resilience, etc).
- These protocols are simply starting places for developing test methods which are suitable for your own products. A researcher should be comfortable modifying the sample handling protocols, test speeds and distances to accommodate any specific purposes.