

Slicing Properties of French Bread

CUSTOMER

A producer of ready-to-eat products wanted a way to accurately and objectively determine the degree of “staleness” of the bread used in their product. This property is critical to the production process.

PROBLEM

The “staleness” or firmness of the bread plays a key role in how it is sliced. If it is too fresh, the product tends to clog up in the slicers. If it is too stale, it produces an undesirable end product for the consumer.

At the time, there was no repeatable method to measure, and therefore control this attribute of the product.

SOLUTION

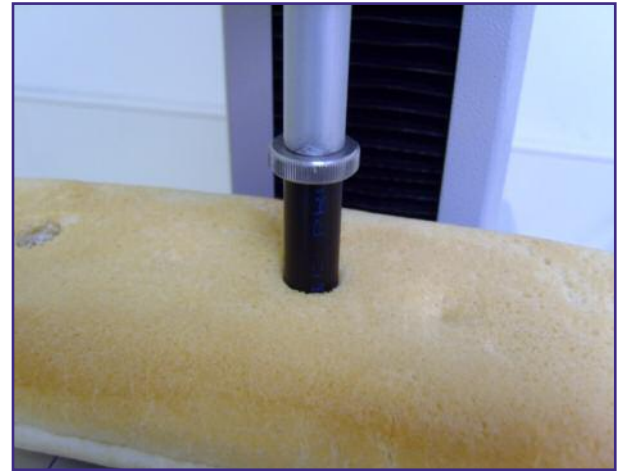
Two samples were sent; one fresh and one that was two days old.

For each test a simple penetration cylinder probe was used. This made it possible to make measurements on both the crust and the inner body.

The probe was moved down until it came in contact with the sample. Then the probe then penetrated the product at 250 mm/min to a distance of 15 mm.

BENEFITS

- Simple and fast test to objectively measure the degree of staleness in the bread
- Software facilitates automatic statistical analysis
- Allows customer to put ‘real’ numbers to their sensory information
- Knowing how the product will slice prior to processing will greatly reduce the chances of downtime due to a stoppage at the slicing blades.



FRESH Units	Peak		STALE Units	Peak	
	Force N	Slope N/mm		Force N	Slope N/mm
Fresh 1	9.48	1.15	Stale 1	13.71	3.15
Fresh 2	8.7	1.03	Stale 2	14.45	2.33
Fresh 3	7.75	1.1	Stale 3	15.06	2.74
Fresh 4	9.7	1.21	Stale 4	14.48	2.82
Average	8.91	1.12	Average	14.42	2.76
Std. Dev.	0.88	0.08	Std. Dev.	0.55	0.34

