

Texture Evaluation of Fruit Snacks

REQUIREMENT

A company producing fruit snacks needed a way to measure the texture of their products to ensure a consistent finished product.

Since the raw materials used can vary over time, the production process needs to be adjusted accordingly.

Current quality control methods were completely subjective and the results varied from person to person. A way to objectively and accurately measure the product was required.

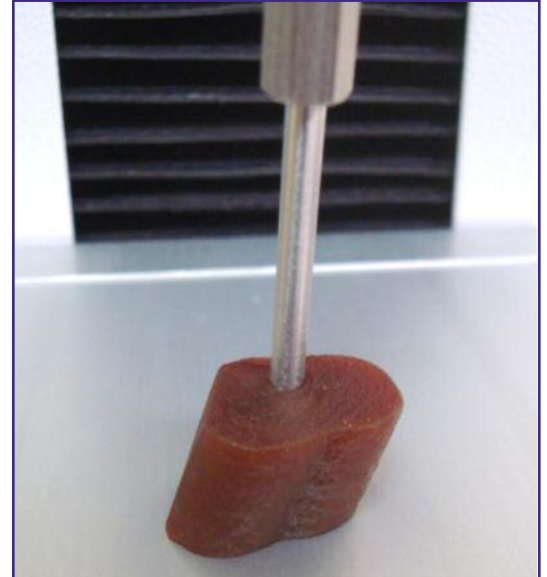
SOLUTION

After several trials, it was determined that a simple penetration test would work well. This method was found to yield consistent data on the product and was quick and easy to set up. The samples were placed on a flat plate and punctured using a blunt, 3mm diameter, stainless steel probe.

Care was taken to select samples of very similar shape and size. Each sample was penetrated at a speed of 200mm/min to a distance of 20mm. Calculations of the peak force encountered and the work (area under the curve) were performed.

BENEFITS

- The customer can now obtain objective measurements that correlate to historical subjective evaluations
- Simple test method allows a large number of repetitions to be performed for meaningful statistical analysis
- Results are easily exported to other programs for further analysis and long term SPC



	Peak	
	Average	St. Dev.
Sample 1	20.1	1.1
Sample 3	16.1	0.9
Sample 5	16.7	0.2
	Work	
	Average	St. Dev.
Sample 1	236.9	11.8
Sample 3	165.4	8.2
Sample 5	165.9	4.3

