

Texture & Resistance to Tear of Tortillas

APPLICATION

Producer of corn flour tortilla products needed a way to determine the texture and resistance to tear their products.

PROBLEM

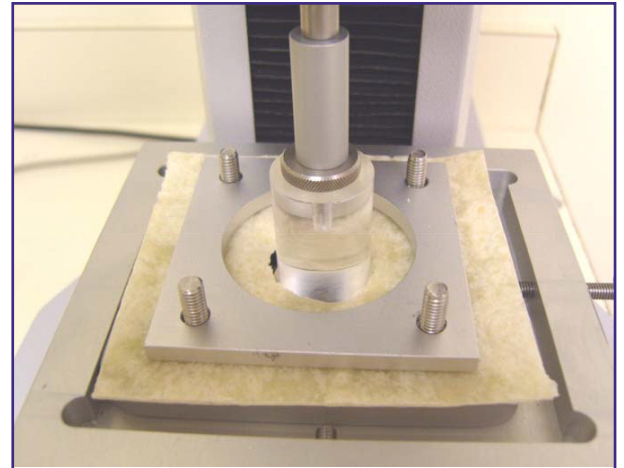
To be considered a good tortilla, the product has to be flexible enough to roll up but strong enough to hold a typically hot filling without tearing. Current methods for testing are very subjective and unreliable. They wanted a way to put firm numbers to the properties of their products to replace current subjective measurements.

SOLUTION

Individual samples to be tested were prepared by cutting 6 square samples from the same tortilla to fit into the testing fixture. All testing was done at room temperature using the TMS-Pro Texture Analyzer. The samples were held in place using a ring clamp (Extensibility Fixture) and punctured through using a 1" inch cylinder probe. The test speed was set to 150mm/min and run to a distance of 35mm. This distance was far enough to have the probe puncture through the sample.

BENEFITS

- Simple test to objectively measure the tear strength of tortillas
- Software facilitates automatic statistical analysis
- Allows customer to put 'real' numbers to their subjective data



| Averages | Peak (N) | Work (mJ) | Peak x Work |
|----------|----------|-----------|-------------|
| Sample 1 | 11.1 | 30.0 | 333.0 |
| Sample 2 | 13.6 | 45.7 | 621.5 |
| Sample 3 | 10.6 | 27.4 | 290.4 |
| Sample 4 | 13.9 | 47.4 | 658.9 |

