

## CRISPNESS OF POTATO CHIPS

The crispness characteristics of kettle cooked potato chips were evaluated using a three point bend assembly as an indicator of frying profile.

### REQUIREMENT

A potato chip processor wanted to have an objective measurement to supplement and confirm the subjective data they have from sensory testing. Nine different samples were evaluated. The samples represented:

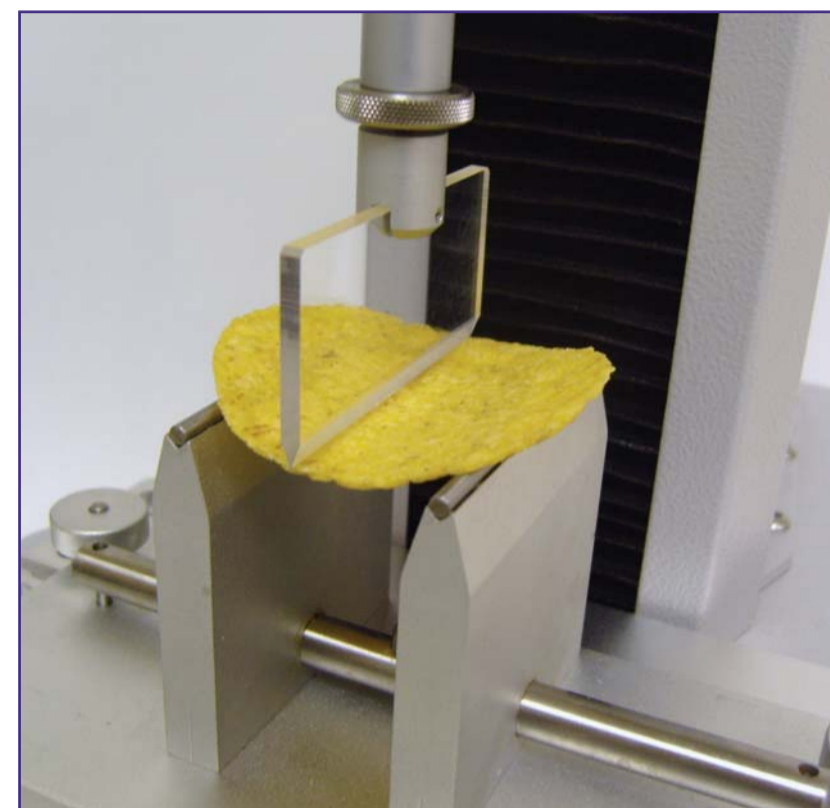
- Too crisp
- Ideal
- Not crisp enough

The results generate would be used to monitor processing procedures, improve the consistency of the product, objectively measure inconsistencies, and give indicators of frying method in order to maintain an ideal process.

### SOLUTION

Due to the inherent variation of the product, several methods were tried before determining that the snap or three-point bend would produce the most repeatable results.

This test causes the chips to break in half at the weakest point; typically along the contact area of the upper fulcrum of the fixture.



The potato chip sample is supported at two points. The travelling beam moves down and snaps the sample.

### BENEFIT

- Break characteristics can be used to optimise the product formulation and other factors that have an effect on the final product e.g. cook time, moisture content of raw product
- Properties can be evaluated over time to show the effectiveness of the packaging in preventing excessive moisture migration, causing the product to go stale
- Break properties can be used to determine the ideal sensory preference during the development stage of the product