# Sensory Perception of Food

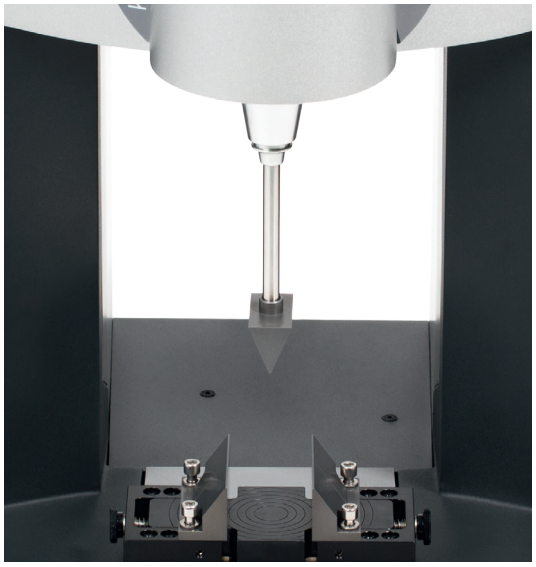
Claire Strasser, Rheology Applications Specialist, and Dr. Shona Marsh, Sector Manager Polymers

## Introduction

Rotational rheometers are not limited to studying the flow properties and viscoelastic behavior of materials. Devices with high normal force capabilities can also measure *snap ability* – a characteristic describing how food is perceived during the first bite. These measurements are conducted using a texture analysis accessory, as shown in figure 1.

## Experimental

In this process, the solid food sample, such as a biscuit or cookie, is placed on the lower fixture of the texture analysis setup (figure 1). The upper fixture moves downward at a constant speed until it reaches a gap of 0 mm, while the normal force is continuously recorded.



**1** Kinexus rotational rheometer equipped with the texture analysis setup for characterizing brittle solids (biscuits, chocolate).

NGB · Application Note 357 · EN · 0125 · Technical specifications are subject to change.



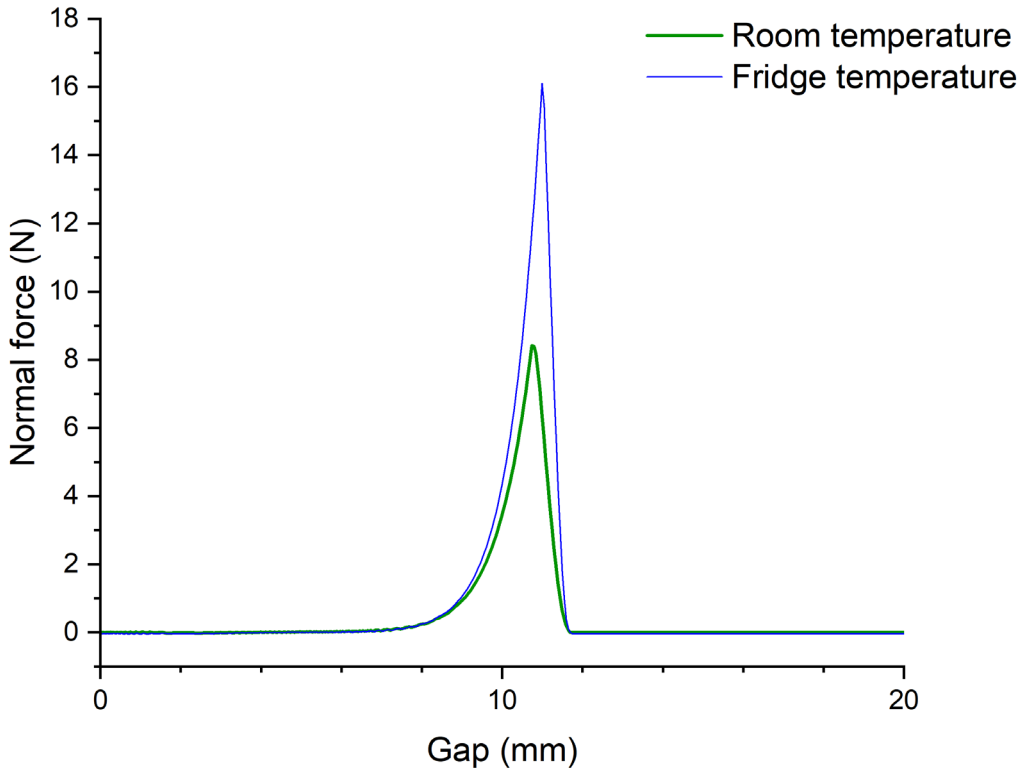
NETZSCH-Gerätebau GmbH
Wittelsbacherstraße 42 · 95100 Selb · Germany
Phone: +49 9287/881-0 · Fax: +49 9287/881505
at@netzsch.com · www.netzsch.com

NETZSCH

To illustrate this, a test was conducted comparing the snap-ability of a milk chocolate-coated biscuit stored at room temperature with one stored in the refrigerator. The upper fixture was programmed to descend at a speed of 50 mm/s.

## Measurement Results

The results, shown in figure 2, reveal that the force required to snap the refrigerated biscuit is nearly double that of the biscuit stored at room temperature.




**2** Resulting curves of the measurement with texture analysis. More force is required to break the biscuit coming from the fridge.

NGB · Application Note 357 · EN · 0125 · Technical specifications are subject to change.



NETZSCH-Gerätebau GmbH
Wittelsbacherstraße 42 · 95100 Selb · Germany
Phone: +49 9287/881-0 · Fax: +49 9287/881505
at@netzsch.com · www.netzsch.com