

TAPTONE

APPLICATION NOTE

Volume 1, No. 2

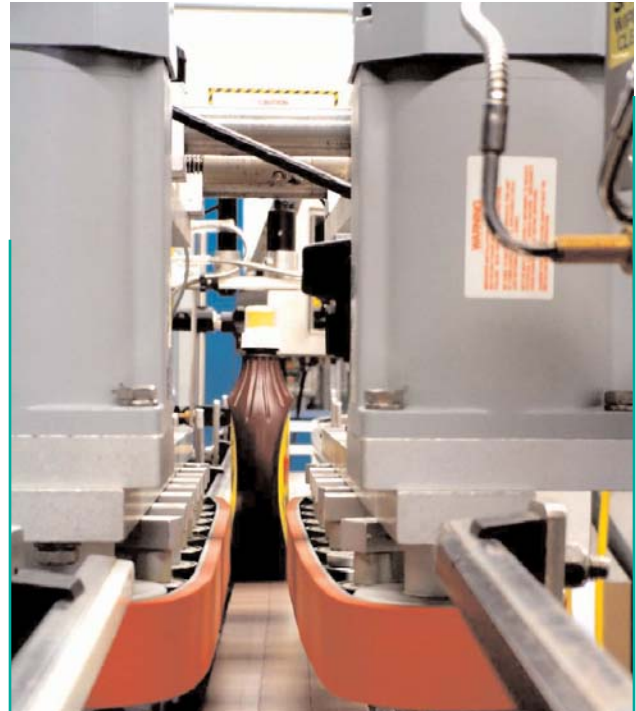
IDENTIFYING LEAKERS IN CHOCOLATE SYRUP CONTAINERS

Tested: Flexible Plastic Bottles with Push Up/Down Squirt Cap with a Threaded Closure and No Membrane Seal

Tested with: TapTone 1000-C Compression Sensor

The purpose of this test was to prove the effectiveness of the TapTone 1000-C Compression Sensor in testing syrup bottles for proper closure and seal defects. Due to the nature of a syrup product, processors are aware that one leaking container can ruin an entire case of their product.

The T1000-C Compression Sensor is ideal for finding potential leakers in syrup containers before they leave the processing plant.



A bottle of chocolate syrup passes through the compression belts of the T1000-C.

How It Works

The T1000-C Compression Sensor utilizes dual parallel belts to apply force to the sidewall of a passing container. This action also compresses the headspace of the container which allows a load cell to take a force measurement at the discharge of the system. Utilizing DSP technology, the controller analyzes the measurement and assigns a merit value to each container. If the merit value is outside of the acceptable range, a reject signal activates a remote reject system.

See next page for test results



T-1000 Compression Controller and Sensor. Sensor has a cantilever design that suspends over the existing conveyor.



TELEDYNE TAPTONE
Package Inspection Systems
A Teledyne Technologies Company

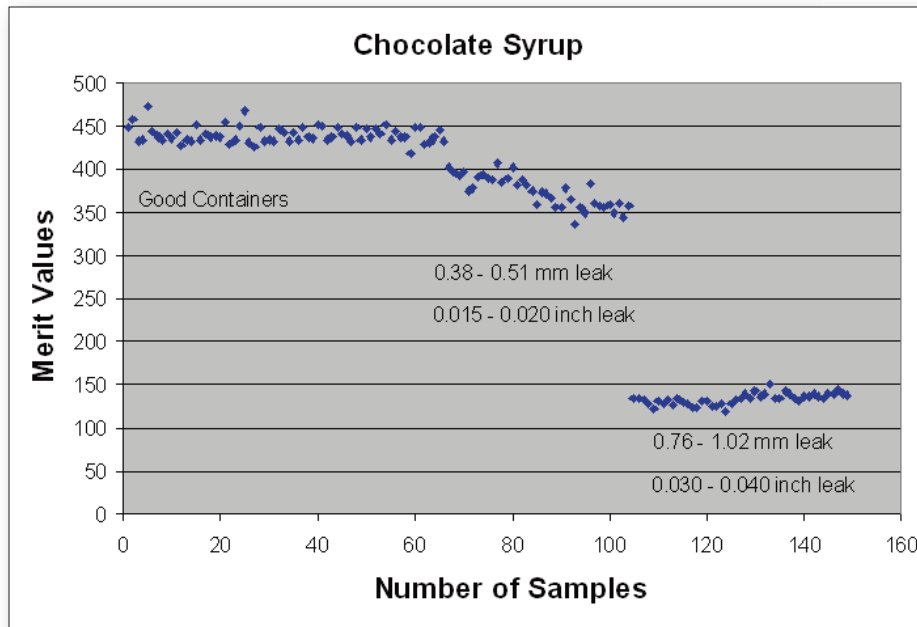
www.TapTone.com

APPLICATION NOTE

TEST

This evaluation compared non-leaking containers to containers with leaks. The leaking containers had hole sizes that ranged from 0.015 to 0.040 inches (0.38 mm to 1.02 mm). Syrup bottles were oriented to pass through the compression belts with the front and back of the bottle against the belt, allowing for a wider surface area against the compression sensor.

During the compression cycle the sealed, non-leaking containers generated an average merit value* of 440. When leaking containers were introduced, those with hole sizes of 0.015 to 0.020 inches (0.38 mm to 0.51 mm) in diameter produced an average merit value of 375. When containers with even larger diameter leaks (0.76 - 1.02 mm or 0.030 - 0.040 in) were introduced, merit values dropped to under 150.



The test line speed was set at approximately 130 feet per minute (0.66 meters per second) to emulate the actual process line speed.

* Merit value is a calculated number determined using an algorithm to compute a resultant from a set of data values.

SUMMARY

The test shows that the TapTone 1000-C Compression Sensor can successfully detect leaks as small as 0.015 inches (0.38 mm) in chocolate syrup containers.



TELEDYNE TAPTONE
Package Inspection Systems
 A Teledyne Technologies Company

www.TapTone.com

49 Edgerton Drive • North Falmouth, MA 02556 USA

P: 508.563.1000

F: 508.564.9945

E-Mail: taptone@teledyne.com

11/2007. Specifications subject to change without notice.
 TAPTONE is a registered trademark of TELEDYNE TAPTONE. Copyright 2007, TELEDYNE TAPTONE.