TELEDYNE TAPTONE
Package Inspection Systems
A Business Unit of Teledyne Benthos, Inc.

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TapTone
APPLICATION NOTES

News and information from Teledyne TapTone, a leader in the package inspection industry.

LEAK DETECTION IN MOTOR OIL BOTTLES

Tested: Plastic HDPE bottles with foil induction seals

Inspection Desired: The purpose of this test was to identify containers with improper foil seals or defects in the container closure itself.

Tested with: TapTone T4000 Compression System

▲ HDPE bottles with foil induction seals

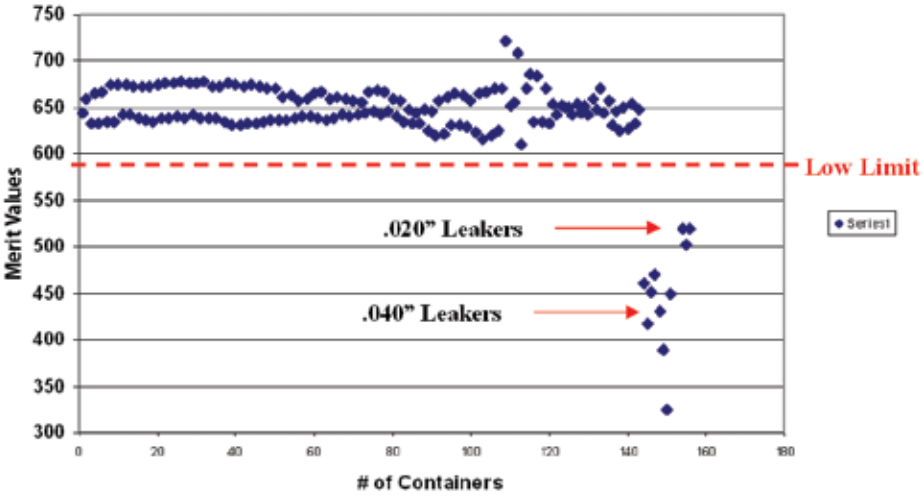
TECHNOLOGY CORNER *HOW IT WORKS*

The T4000 Compression technology is used to find leaks in flexible containers. As a container passes through the system, dual parallel belts apply force to the sidewalls of the container. This action 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.

T-4000 Controller and Compression Sensor. Sensor has a cantilever design that suspends over the existing conveyor. ▶

TEST

The bottles were tested at a speed of 45 feet per minute, which calculates to more than 120 bottles per minute. A merit value difference of approximately 150 counts separated the good containers from the bad. This application was a successful one for the TapTone T4000-C and is the recommended inspection system for the testing of the HDPE bottles with induction foil seals to remove defective containers from the production line with seal defects as small as .020 inch in diameter.



SUMMARY

The results indicate that the TapTone T4000-C Compression Sensor can successfully be used to detect leaks in an HDPE plastic bottle.

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