



## Transit Packaging Testing: Technical updates

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### ISTA 3L Generalized E-commerce Retailer Fulfillment Test

#### What is it?

The ISTA 3L testing protocol is designed to assess the performance and durability of packaged products being shipped in their own containers (SIOC) within the e-commerce retailer fulfillment supply chain. It follows a comprehensive approach to evaluate the packaging's ability to withstand the various phases of the supply chain, including e-commerce retailer processing and outbound shipment to consumers.

The testing protocol encompasses the following phases:

**E-commerce Retailer Processing:** This phase focuses on evaluating the packaging's ability to withstand the processing procedures within an e-commerce retailer's fulfillment center. It includes activities such as order picking, sorting, and packing of products for shipment. The packaging's integrity and resistance to potential hazards, such as stacking, compression, and impacts during handling, are assessed during this phase.

**Outbound Shipment to Consumers:** This phase involves assessing the packaging's performance during the transportation of the packaged-products from the e-commerce retailer to the end consumer. It considers two primary shipment methods: single parcel and less-than-truckload (LTL).

#### Main objective:

Companies can simulate the many hazards faced when direct product orders are shipped to consumers via e-commerce retailer fulfillment systems used by Amazon.com, Walmart, Sam's Club, Costco, The Home Depot and others.

A packaged product can be evaluated based on its ability to withstand supply chain hazards encountered when being transported and handled from receipt to any e-commerce retailer fulfillment center.

#### How Was ISTA 3L Developed?

ISTA 3L was developed by combining data from relevant testing protocols, observational data collected within multiple retailer fulfillment locations, broad industry feedback, and correlation of field damages to laboratory testing results.



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This test is appropriate for nine different types of packaged products. The different types of packaged products are determined through the consideration of four criteria:

Retailer Outbound Shipment Method,

Retailer Fulfillment Center Handling Method,

Packaged Product Weight

Product Category

The test provides stakeholders across the supply chain an opportunity to anticipate, design, and prepare for the impacts of transit hazards (vibration, shock, compression, temperature and humidity) on packaged products in direct-to-consumer shipments. This is especially essential for home delivery as damage in transit will ultimately be received by the customer, negatively impacting consumer experience and brand equity. Damage in transit is also a worst-case sustainability outcome since both the product and package become waste.

**For more information with regards to the technical update, please contact:**

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