



ISTA 3 Series
General
Simulation
Performance
Test
Procedure

VERSION
DATE

Last
TECHNICAL
Change:
JANUARY
2011

Last
EDITORIAL
Change:
JANUARY
2014

For complete
listing of
Procedure
Changes and
Version Dates
go to
www.ista.org

Preface

ISTA, Distributing Confidence, Worldwide™

ISTA 3 Series tests are advanced tests.

- They challenge the capability of the package and product to withstand transport hazards, **but**
- They use general simulation of actual transport hazards, **and**
- They do not necessarily comply with carrier packaging regulations.

When properly applied, ISTA procedures will provide tangible benefits of:

- Shortened packaged development time and confidence in product launch
- Protection of products and profits with reduced damage and product loss
- Economically balanced distribution costs
- Customer satisfaction and continued business.

There are three sections: Overview, Testing and Report

- **Overview** provides the general knowledge required before going into the testing laboratory **and**
- **Testing** presents the specific instructions to do the testing in the laboratory **and**
- **Report** indicates what data shall be recorded to submit a test report to ISTA.

Two systems of weights and measures are presented in ISTA test procedures. They are the English system (Inch-Pound) and the international system SI (Metric). Inch-Pound units are shown first with Metric units in brackets, except in some tables where they are shown separately.

- Either system may be used as the unit of measure (standard units), **but**
- The standard units chosen shall be used consistently throughout the procedure.
- Units are converted to two significant figures **and**
- Not exact equivalents.

VERY IMPORTANT:

The entire document shall be read and understood before proceeding with a test.

OVERVIEW OF PROCEDURE 3H

Test Procedure 3H is a general simulation test for mechanically handled bulk loads.

- It is intended for bulk loads of the same product but it can also be considered for mixed loads.
- It can be used to evaluate the protective performance of bulk transport systems related to vibrations, shocks and other stresses normally encountered during handling and transportation.
- It can be used to evaluate interior dunnage.
- The test levels are based on general data and may not represent any specific distribution system.
- The package and product are considered together and not separately.
- Some conditions of transit, such as moisture, pressure or unusual handling, may not be covered.

Other ISTA Procedures may be appropriate for different conditions or to meet different objectives.

Refer to *Guidelines for Selecting and Using ISTA Procedures and Projects* for additional information.

Overview of Procedure 3H	
Scope	Test Procedure 3H covers testing of bulk loads made up of one transport container or system consisting of the same product that because of their size and/or weight must be handled by mechanical means, for example, automotive parts in reusable racks.
Product Damage Tolerance and Package Degradation Allowance	<p>The shipper shall determine the following prior to testing:</p> <ul style="list-style-type: none">• what constitutes damage to the product and• what damage tolerance level is allowable, if any, and• the correct methodology to determine product condition at the conclusion of the test and• the acceptable package condition at the conclusion of the test. <p>For additional information on this determination process refer to <i>Guidelines for Selecting and Using ISTA Procedures and Projects</i>.</p>
Samples	<p>Samples should be the untested actual package and product, but if one or both are not available, the substitutes shall be as identical as possible to actual items.</p> <p>Number of samples required:</p> <ul style="list-style-type: none">• One sample is required for the tests in this procedure. <p>Replicate Testing Recommended:</p> <p>To permit an adequate determination of representative performance of the packaged-product, ISTA:</p> <ul style="list-style-type: none">• Requires the procedure to be performed one time, but• Recommends performing the procedure five or more times using new samples with each test. <p>NOTE:</p> <p>Packages that have already been subjected to the rigors of transportation cannot be assumed to represent standard conditions. In order to insure testing in perfect condition, products and packages shipped to certified laboratories for testing must be:</p> <ul style="list-style-type: none">• over-packaged for shipment to the laboratory or• repackaged in new packaging at the laboratory.
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