



**ADVANCED PACKAGING  
TECHNOLOGY LABORATORIES INC.**

200 LARKIN DRIVE #H • WHEELING, IL 60090

Phone: (847) 520-4343 • Fax: (847) 520-4365 • Email: aptl@flash.net • Web: www.advanced-labs.com

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July 16, 2004

**Transcom International, Inc.**  
1730 Preston Ave  
Suite B  
Pasadena, Texas 77503

**Attention: Jim Matsui**

**Regarding:** ISTA Testing  
Our Job No. **7959**

Dear Mr. Matsui:

This is to report the results of the **ISTA 1H**, Packaged Products Weighing over 150 Pounds, conducted on one (1) palletized package submitted. Testing was completed on July 13, 2004.

**Materials Tested:**

One (1) package containing product identified as:

**Self-Inflating Disposable Tote 275 Gallon Capacity**

**Package Information:**

Exterior:

Style:	44" x 44" x 37½" Self Erecting Bulk Bin, Six Ply Build-up, Retained at the Bottom by 48" x 48" x 7½" (Exterior Dimension) Wood Frame (2 x 8) Attached With Nails to Pallet 44" x 44½" x 6½" Top Cap, Single Wall, B Flute Stapled Corners
Pallet:	48" x 48" x 4½" Wooden Four-way
Size (Erected):	48" x 48" x 42" (L x W x H)
Manufacturers joint:	Glued inside
Closure:	Four (4) ½" wide Poly Bands Top to Bottom One ½" Steel Band around Wooden frame at Bottom



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**Package Information (cont):**

One (1) Multi-ply Poly Bag with Integral Fittings  
One 45" x 45" Bottom Single Wall Sheet

Gross Weight:            Empty 165 lb  
                                     Filled 3500 lb with fluid of 12.4 lb/gal density

**General Test Procedure:**

Testing was conducted in accordance with the International Safe Transit Association (ISTA) test procedure 1H, Packaged Products Weighing 150 Pounds.

**Test Procedures (Actual):**

Conditioning:

The package was tested at standard laboratory conditions: 73±4°F/50±5% RH

Vibration Test:

The pallets were placed individually on the vibration table in their normal upright shipping position. Fences were placed around the pallet to prevent its horizontal motion but not its vertical motion. In this position, the container was subjected to random test vibrations from 1 to 200 Hz at .52 G input. The test duration was sixty minutes (60 min).

Horizontal Impact:

The pallet was placed on the carriage of the horizontal impact apparatus with a face against the backstop. The machine was programmed to provide an impact at a minimum velocity of 5.75 ft./sec. Each face of the pallet was subjected to one (1) impact at this velocity. Four (4) impacts were experienced by the pallet.

Compressive Loading:

A compressive load was applied to the top of each pallet and removed after three seconds. The force applied and deflection was recorded. The maximum load applied without failure was fourteen-thousand pounds. Deflection of the corrugated package was one and one half inch at this load.



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**Test Results:**

1. The package **passed** the standard ISTA 1H requirements.
2. Inspection of the contents revealed no apparent damage to the package or product.
3. The package was returned to client for further evaluation.

Should you have any questions regarding testing, please contact us.

Respectfully submitted,

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Glenn O. Schumacher  
Project Scientist

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F. Tim Wittenrood  
Senior Test Engineer