



**APPROVAL CA2006030022**

**(Fifth Revision)**

**ISSUED BY THE COMPETENT AUTHORITY OF THE UNITED STATES**

**(Expiration Date: 11-30-2011)**

1. **APPROVAL HOLDER:**      **TEN-E PACKAGING Services Inc.**  
1666 County Road 74  
Newport, MN 55055
  
2. **REGULATORY AUTHORITY:** 49 CFR § 107.403 Designation of  
Approval Agency - UN Third-Party Certification Agency
  
3. **SYNOPSIS:** Ten-E Packaging Services Inc. is designated as  
an Approval Agency for the Department of Transportation to  
conduct testing and certify packagings as meeting the  
performance requirements of certain UN and DOT packagings.
  
4. **BASIS:** This approval is issued in response to Ten-E  
Packaging Services Inc.'s application dated March 14, 1985  
and revised per the Pipeline and Hazardous Materials Safety  
Administration's (PHMSA) initiative to clarify the  
requirements for a UN Third-Party Certification Agency.
  
5. **PERIOD OF VALIDITY AND CONDITIONS OF APPROVAL:** This  
approval does not provide relief from the requirements of  
the Hazardous Materials Regulations. This approval shall  
remain valid as long as the following conditions are met:
  - All operations are conducted prior to the posted  
expiration date;
  - The approval has not been terminated by the Associate  
Administrator for Hazardous Materials Safety (AAHMS);
  - The approval holder maintains the necessary technical  
capabilities to conduct testing and certification of  
UN or DOT specification packagings;

- There has been no change in the certifying official that has not been approved in writing by the AAHMS; and
- All requirements of this approval including reporting requirements, and the HMR requirements are met.

a. **UN Third-Party Certification Agency:** The holder of this approval is hereby issued the identification Code and symbol:

**"+AA"**

This code and symbol constitutes an approval designating your company and location as a UN Third-Party Certification Agency. This approval grants the holder authority to certify packagings as meeting UN and DOT criteria for packagings listed in paragraph 5.c.

b. **Certifying Official(s):** Only the following persons may certify packagings listed in 5.c.

Robert J. Ten Eyck  
Larry J. Anderson  
Patricia L. Garin  
Jon G. Godfrey  
Susan J. Hauge  
Jim D. Loth  
Paul J. Mathson  
John Sternquist  
Steve Brion  
Mathew Geraghty  
Adam Torrence  
Carter Xiong  
Kevin Maier

c. **Packaging testing authorized:** The holder of this approval may only test and certify the following packaging:

**Non-bulk packagings**

Metal drums and jerricans,  
Plastic drums and jerricans,  
Fiberboard boxes,  
Other Boxes,  
Plastic, textile and paper bags,  
Other drums and barrels,  
Plastic in metal composite packagings,  
Plastic in other composite packagings,

Other composite packagings

**IBC's**

Solid IBC's

Liquid IBC's

**Infectious Substances packagings**

§ 178.609(a)

**Large packagings**

Rigid large packagings

Flexible large packagings

6. **SPECIAL PROVISIONS:**

a. Each testing certificate issued by the holder of this approval shall be prepared in accordance with § 107.404 and must include your identification symbol provided in paragraph 5.a. The identification symbol is to be followed by a number (four-digit minimum) which will refer to the specific packaging being certified as set forth in § 178.503(a)(7) and (8). As an example, the first certification you issue would be marked "... USA/+XX0001" where XX is your identification symbol. All certifications must have a unique sequence number.

b. In addition to the requirements in Paragraph 6.a., each approval certificate must be prepared in accordance with the format provided in Appendix A of this approval, and must contain as a minimum the information presented in Appendix B for the applicable packaging design standard tested.

c. Only the persons specifically listed in 5.b. are authorized to certify compliance and sign certifications on behalf of the holder of this approval. If the person who is identified in the Approval as the certification official leaves the company or is no longer serving in the capacity of certifying official; you must notify the Associate Administrator for Hazardous Materials Safety (AAHMS) within 20 days of the event. The AAHMS must authorize all certifying officials, in writing, before they may certify any packagings under the authority of this approval.

d. Only the packagings specifically listed in 5.c. may be tested under the authority of this approval. Any new packagings may only be tested when approved in writing by the AAHMS. To add a new packaging you must submit a sample test report to the Office of Hazardous Material Special Permits and Approvals (OHMSPA) and receive written approval prior to testing. A site visit may be required for a new packaging.

e. Reports must be submitted to the OHMSPA by April 15 and October 15 of each year for each previous 6-month period of testing. No testing may be conducted after April 15 or October 15 of the respective reporting period until a report has been submitted to the Office of Hazardous Material Special Permits and Approvals. Reports must contain the following information:

- Name and address of the Approval Agency;
- The complete UN/DOT certification string of each package tested;
- Name and physical address of the company for which the test was performed; and
- Date testing was completed.
- Reports should be presented in the form of a spreadsheet.

f. To remain an active UN Third-Party Certification Agency you must submit a report even if you have done no testing during the reporting period. Reports may be submitted by email to [approvals@dot.gov](mailto:approvals@dot.gov); and the title of the email should contain UN Third-Party Certification Agency and your approval number.

g. In addition to the reports required in 6.e., one representative certification report of each design type tested must be submitted to the AAHMS.

h. If you are a UN Third-Party Certification Agency and also a manufacturer of packagings, you cannot certify your own packagings with your + (plus) symbol, but you may self-certify and mark the package with your name and address or your M-number.

i. For equipment used for the certification of packagings, each UN Third-Party Certification Agency must

have a traceable calibration system that can be verified upon request Office of Hazardous Material Special Permits and Approvals (OHMSPA).

7. **GENERAL PROVISIONS:**

a. A current copy of your approval or certificate must be posted where testing is being conducted.

b. The original approval application and all supporting documents and reports must be on file and available to DOT representatives upon request.

c. Failure by any person to comply with the terms and conditions of this approval and the Hazardous Materials Regulations, 49 CFR Parts 171-180, may result in the suspension or revocation of that person's authority to use this approval. Failure to comply may also subject that person to penalties prescribed by 49 U.S.C. §§ 5123 and 5124. This approval may be modified, suspended or terminated in its entirety if that action is justified in light of changes in circumstances, including additional information not available when this approval was issued. Unless immediate modification, suspension or termination is necessary to avoid imminent, material harm to persons or property, before action is taken, that person will be notified and provided with an opportunity to show why the proposed action should not be taken.

d. Each "Hazmat employee", as defined in § 171.8, who performs a function subject to this approval must receive training on the requirements and conditions of this approval in addition to the training required by §§ 172.700 through 172.704.

e. It is unlawful for you to represent or mark a container, package, or packaging (or component of a container, package, or packaging) for transportation of a hazardous material unless it meets the requirements of each applicable regulation prescribed in § 171.2(c).

f. Any person operating under the terms of this approval must comply with the security plan requirement in Subpart I of Part 172 of the HMR, when applicable.

g. Application for renewal must be submitted at least 60 days prior to the expiration date.

h. Please refer to the aforementioned special approval number in any future correspondence regarding this authorization.

Issued in Washington, D.C.

Dated: 01/07/2011



For Dr. Magdy El-Sibaie  
Associate Administrator for Hazardous Materials Safety

Address all inquiries to: Associate Administrator for Hazardous Materials Safety, Pipeline and Hazardous Materials Safety Administration, Department of Transportation, Washington, D.C. 20590. Attention: PHH-32.

## Section I

### Basic Information:

- 1) Packaging manufacturer's name and address or test laboratory customer's name and address;
- 2) Testing laboratory's name and address (if different from (1));
- 3) Unique test report identification number;
- 4) Date of the test report;
- 5) Signature of certifier and name and title.

## Section II

Packaging Description - Applicable to all design types; additional design specific information is provided in the appropriate packaging design standard.

- 1) Packaging design standard (UN 1A1, UN 4G, UN 6HA1, etc) and trade name.
- 2) Packaging manufacturer's name and address, if different from the customers name and address.
- 3) Packaging component (cap, inner package, etc.) manufacturer's name and address, if different from above;
- 4) Material of construction of the packaging body, heads, lid, etc;
  - a) Type and grade
  - b) Thickness
    - i) Minimum
    - ii) Nominal
- 5) Method of construction
- 6) Capacity
  - i) Nominal
  - ii) Maximum
- 7) Dimensions, external - see appropriate design type for additional required information;
- 8) Closures - see appropriate design type for additional required information;
- 9) Tare mass of complete packaging and individual components;
- 10) Filled mass of package as tested;
- 11) Closure method
  - a) Equipment used to close the package; and
  - b) Description of a repeatable and consistent means of closure.
- 12) Inner receptacles and inner packagings - see appropriate section for additional required information;

### **Section III**

#### Test Description and Results

- 1) Test method;
- 2) Conditioning (if required);
- 3) Test contents, material used, viscosity and relative density for liquids (if other than water and antifreeze) and particle size for solids;
- 4) Pass/fail criteria
- 5) Test results.

### **Section IV**

Mathematical Calculations performed to conduct and document testing. Calculations must be accurate to the nearest .1 kilogram.

- 1) Packaging filling limits to determine 98% or 95% full for testing;
- 2) Drop height for high specific gravity liquids;
- 3) Stacking test load;
- 4) Other calculations as required.

For calculations that are included on the package test reports the following tolerances are authorized:

- Mass in kilograms (kg) +/-2%
- Pressure in kilopascals (kPa) +/-3%
- Distance/length/ thickness in millimeters (mm) +/-2%
- Temperature in degrees Celsius (°C) +/-1°C
- Humidity in percentage (%) Tolerances are specified in the test methods.
- Time in minutes (min) +/-3%
- Torque in Newton meters (Nm) +/-3Nm

Note: Where maximum or minimum values are specified in the regulations, the tolerances shall be one sided, e.g. minimum test pressure.

### **Section V**

- 1) Packaging design drawings for all packaging components

## Appendix B - Detailed Requirements by Package Type

For packagings certified as conforming to:

§ 178.504 Standards for steel drums.

§ 178.505 Standards for aluminum drums.

§ 178.506 Standards for metal drums other than steel or aluminum.

### **1) Specific test report requirements for metal drums:**

- a) Gasket - materials of construction (if present)
  - i) Type of gasket material;
  - ii) Thickness of gasket and configuration;
- b) Diameter of drum, external
  - i) Maximum;
  - ii) Minimum;
- c) Height of drum
  - i) Overall;
  - ii) Stacking;
- d) Rolling hoops on drum;
  - i) Number;
  - ii) Location;
  - iii) Height;
- e) Seam type
  - i) End seam (Chime);
  - ii) Side seam;
- f) Handle(s) (if present)
  - i) Material;
  - ii) Number;
  - iii) Location;
- g) Closure(s) including liner(s) (other than covers of removable head drums)
  - i) Material;
  - ii) Number;
  - iii) Location;
  - iv) Design;
    - (1) Thread type
    - (2) Thread style
    - (3) Thread pitch
  - v) Closure Diameter;
  - vi) Closure Thickness;
  - vii) Closure Weight;
  - viii) Closure Liner
    - (1) Material
    - (2) Thickness
    - (3) Weight
- h) Cover and closure ring (removable head drums)
  - i) Style;
  - ii) Material (including bolt if present);
  - iii) Dimensions (including bolt if present);

Appendix B - Detailed Requirements by Package Type

- i) Inner liner, lining or coating (if present)
  - i) Material;
  - ii) Thickness
  - iii) Closing method (liner)

For packagings certified as conforming to:

§ 178.507 Standards for plywood drums.

**1) Specific test report requirements for plywood drums:**

- a) Number of plies
  - (1) Heads;
  - (2) Body;
- b) Gasket - materials of construction (if present)
  - i) Type of gasket material;
  - ii) Thickness of gasket and configuration;
- c) Diameter, external
  - i) Maximum;
  - ii) Minimum;
- d) Height
  - i) Overall;
  - ii) Stacking;
- e) Closure(s) including liner(s) (other than covers of removable head drums)
  - i) Material;
  - ii) Number;
  - iii) Location;
  - iv) Design;
    - (1) Thread type
    - (2) Thread style
    - (3) Thread pitch
  - v) Closure Diameter;
  - vi) Closure Thickness;
  - vii) Closure Weight;
  - viii) Closure Liner
    - (1) Material
    - (2) Thickness
    - (3) Weight
- f) Cover and closure ring (removable head drums)
  - i) Style;
  - ii) Material (including bolt if present);
  - iii) Dimensions (including bolt if present);
- g) Inner liner, lining or coating (if present)
  - i) Material;
  - ii) Thickness;
  - iii) Mass;
  - iv) Closing method (liner);

## Appendix B - Detailed Requirements by Package Type

For packagings certified as conforming to:

§ 178.508 Standards for fiber drums.

### **1) Specific test report requirements for fiber drums:**

- a) Number of plies and material of each ply;
  - i) Heads;
  - ii) Body;
- b) Basis weight of fiber plies;
- c) Thickness of each ply and total thickness;
  - (1) Minimum;
  - (2) Nominal;
- d) Gasket - materials of construction (if present)
  - i) Type of gasket material;
  - ii) Thickness of gasket and configuration;
- e) Diameter, external
  - i) Maximum;
  - ii) Minimum;
- f) Height
  - i) Overall;
  - ii) Stacking;
- g) Closure(s) including liner(s) (other than covers of removable head drums)
  - i) Material;
  - ii) Number;
  - iii) Location;
  - iv) Design;
    - (1) Thread type
    - (2) Thread style
    - (3) Thread pitch
  - v) Closure Diameter;
  - vi) Closure Thickness;
  - vii) Closure Weight;
  - viii) Closure Liner
    - (1) Material
    - (2) Thickness
    - (3) Weight;
- h) Cover and closure ring (removable head drums)
  - i) Style;
  - ii) Material (including bolt if present);
  - iii) Dimensions (including bolt if present);
- i) Inner liner, lining or coating (if present)
  - i) Material;
  - ii) Thickness;
  - iii) Mass;
  - iv) Closing method (liner);

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For packagings certified as conforming to:

§ 178.509 Standards for plastic drums and jerricans.

### **1) Specific test report requirements for plastic drums and jerricans:**

- a) Gasket - materials of construction (if present)
  - i) Type of gasket material;
  - ii) Thickness of gasket and configuration;
- b) External Dimensions
  - i) Diameter, external
  - ii) Maximum;
  - iii) Minimum;
- c) Body Section (non-round packages)
  - i) Length (Maximum and minimum);
  - ii) Width (Maximum and minimum).
- d) Height
  - i) Overall;
  - ii) Stacking;
- e) Handle(s) (if present) material, number and location
- f) Closure(s) including liner(s) (other than covers of removable head drums)
  - i) Material;
  - ii) Number;
  - iii) Location;
  - iv) Design;
    - (1) Thread type
    - (2) Thread style
    - (3) Thread pitch
  - v) Diameter;
  - vi) Thickness;
  - vii) Weight;
  - viii) Liner
    - (1) Material
    - (2) Thickness
    - (3) Weight
- g) Cover and closure ring (removable head drums)
  - i) Style;
  - ii) Material (including bolt if present);
  - iii) Dimensions (including bolt if present);
- h) Inner liner, lining or coating (if present)
  - i) Material;
  - ii) Thickness;
  - iii) Mass;
  - iv) Closing method (liner);

## Appendix B - Detailed Requirements by Package Type

For packagings certified as conforming to:

§ 178.511 Standards for aluminum and steel jerricans.

### **1) Specific test report requirements for metal jerricans:**

- a) Gasket - materials of construction (if present)
  - i) Type of gasket material;
  - ii) Thickness of gasket and configuration;
- b) Dimensions of jerrican, external
  - i) Length (Maximum and minimum);
  - ii) Width (Maximum and minimum).
- c) Height of jerrican
  - i) Overall;
  - ii) Stacking;
- d) Seam type
  - i) End seam (Chime);
  - ii) Side seam;
- e) Handle(s) (if present)
  - i) Material;
  - ii) Number;
  - iii) Location;
- f) Closure(s) including liner(s) (other than covers of removable head jerricans)
  - i) Material;
  - ii) Number;
  - iii) Location;
  - iv) Design;
    - (1) Thread type
    - (2) Thread style
    - (3) Thread pitch
  - v) Closure Diameter;
  - vi) Closure Thickness;
  - vii) Closure Weight;
  - viii) Closure Liner
    - (1) Material
    - (2) Thickness
    - (3) Weight
- g) Cover and closure ring (removable head jerricans)
  - i) Style;
  - ii) Material (including bolt if present);
  - iii) Dimensions (including bolt if present);
- h) Inner liner, lining or coating (if present)
  - i) Material;
  - ii) Thickness
  - iii) Closing method (liner)

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For packagings certified as conforming to:

§ 178.512 Standards for steel or aluminum boxes.

### **1) Specific test report requirements for steel or aluminum boxes**

- a) Gasket - materials of construction (if present)
  - i) Type of gasket material;
  - ii) Thickness of gasket and configuration;
- b) Dimension external (L x W x H)
- c) Dimension internal (L x W x H)
- d) Stacking height
- e) Handles, material type, number and position
- f) Closures (Latches, etc.) number, type, position and materials
- g) Closure Method
- h) Liner or lining
  - i) Material;
  - ii) Thickness;
  - iii) Mass;
  - iv) Closing method;

For packagings certified as conforming to:

§ 178.513 Standards for boxes of natural wood.

§ 178.514 Standards for plywood boxes.

§ 178.515 Standards for reconstituted wood boxes.

### **1) Specific test report requirements for boxes of natural wood.**

- a) Number of plies in base, body and lid (Plywood only)
- b) Method of joining panels
- c) Dimension external (L x W x H)
- d) Dimension internal (L x W x H)
- e) Stacking height
- f) Handle(s) (if present)
  - i) Material;
  - ii) Number;
  - iii) Location;
- g) Closures (latches, etc), number, type, position and materials
- h) Closure Method
- i) Liner (if present)
  - i) Material;
  - ii) Thickness;
  - iii) Mass;
  - iv) Closing method;

## Appendix B - Detailed Requirements by Package Type

For packagings certified as conforming to:

§ 178.516 Standards for fiberboard boxes.

### **1) Specific test report requirements for fiberboard boxes.**

- a) Box style
  - i) Number of walls - flute type
  - ii) Board caliper (nominal)
  - iii) Basis Weight of each liner and medium
  - iv) Combined board weight
- b) Method of joining panels
  - i) Manufacturer's joint
    - (1) Flap size
    - (2) Location
- c) Dimension external (L x W x H)
- d) Dimension internal (L x W x H)
- e) Top flap inner gap or meet.
- f) Top flap outer overlap or meet.
- g) Bottom flap inner gap or meet.
- h) Bottom flap outer overlap or meet.
- i) Stacking height (if different from box height).
- j) Handles, material type, number and position.
- k) Closure method of box.
- l) Liner (if present)
  - i) Material;
  - ii) Thickness;
  - iii) Mass;
  - iv) Closing method;
- m) Inner partitions (if present)
  - i) Material of construction
    - (1) Type and grade
  - ii) Number of walls - flute type
  - iii) Board caliper (nominal)
  - iv) Basis Weight of each liner and medium
  - v) Combined board weight
  - vi) Dimensions
    - (1) Length
    - (2) Width

## Appendix B - Detailed Requirements by Package Type

For packagings certified as conforming to:

§ 178.517 Standards for plastic boxes.

### **1) Specific test report requirements for plastic boxes.**

- i) Density
- b) Gasket - materials of construction (if present)
  - i) Type of gasket material;
  - ii) Thickness of gasket and configuration;
- c) Dimension external (L x W x H)
- d) Dimension internal (L x W x H)
- e) Stacking height (if different from box height)
- f) Handles, material type, number and position
- g) Closures (latches, etc), number, type, position and materials
- h) Closure Method
- i) Liner or lining (if present)
  - i) Material;
  - ii) Thickness;
  - iii) Mass;
  - iv) Closing method;

For packagings certified as conforming to:

§ 178.518 Standards for woven plastic bags.

### **1) Specific test report requirements for woven plastic bags**

- a) Fabric (warp/weft), tapes per 100 mm
- b) Material strength elongation
- c) Style of bag
- d) Dimensions
  - i) Flat unopened
  - ii) Gusset, open width
  - iii) Bottom width, flat unopened
  - iv) Valve width
- e) Closure method (top, base, side)
- f) Sewing (if applicable)
  - i) Style and density of stitches
  - ii) Type of thread and minimum breaking load
- g) Perforations
- h) Adhesive, type
- i) Coating or liner
  - i) Material type and grade
  - ii) Number of liner(s)
  - iii) Thickness
  - iv) Type of film grade
  - v) Grammage of plies

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For packagings certified as conforming to:

§ 178.519 Standards for plastic film bags.

### **1) Specific test report Requirements for plastic film bags**

- a) Style
- b) Dimensions
  - i) Flat unopened
  - ii) Gusset, open width
  - iii) Bottom width, flat unopened
  - iv) Valve width
- c) Closure method (top, base, side)
- d) Number of plies
- e) Material strength elongation

For packagings certified as conforming to:

§ 178.520 Standards for textile bags.

### **1) Specific test report Requirements for textile bags**

- i) Material type and grade
- b) Style
- c) Dimensions
  - i) Flat unopened
  - ii) Gusset, open width
  - iii) Bottom width, flat unopened
  - iv) Valve width
- d) Closure method (top, base, side)
- e) Sewing style and threads per inch
- f) Type of thread and breaking strength
- g) Coating
  - i) Material
  - ii) Thickness or weight
- h) Liner
  - i) Number of plies
  - ii) Material
  - iii) Thickness

## Appendix B - Detailed Requirements by Package Type

For packagings certified as conforming to:

§ 178.521 Standards for paper bags.

### **1) Specific test report Requirements for paper bags**

- a) Number of plies
- b) Basis weight of plies
- c) Coating
  - i) Material
  - ii) Thickness or weight
- d) Liner
  - i) Material
  - ii) Thickness
- e) Style
- f) Dimensions
  - i) flat unopened
  - ii) Gusset, open width
  - iii) Bottom width, flat unopened
  - iv) Valve width
- g) Closure method (top, base, side)
- h) Glue type
- i) Sewing style and threads per inch
- j) Type of thread and breaking strength

For packagings certified as conforming to:

§ 178.522 Standards for composite packagings with inner plastic receptacles.

§ 178.523 Standards for composite packagings with inner glass, porcelain, or stoneware receptacles.

### **Specific test report Requirements for composite packagings.**

- 1) The test report requirements for the outer package design type as indicated in the appropriate packaging section.
- 2) The test report requirements for the inner receptacle are as indicated in the inner packaging section.

### **Specific Test report requirements for inner packagings and inner receptacle(s).**

- a) Package type and style.
- b) Material of construction;
  - i) Type and Grade;
  - ii) Thickness;
    - (1) Minimum;
    - (2) Nominal;

## Appendix B - Detailed Requirements by Package Type

- c) Materials of construction gasket, (if present)
  - i) Type of material;
  - ii) Thickness and configuration;
- d) Method of construction;
- e) Capacity
  - i) Nominal;
  - ii) Maximum;
- f) Cross Sectional dimensions
  - i) Diameter, external
    - (1) Maximum;
    - (2) Minimum;
- g) Body Section (non-round packages);
  - i) Length, Maximum and Minimum
  - ii) Width, Maximum and Minimum
- h) Height
- i) Handle(s) (if present) material, number and location
- j) Closure(s) including liner(s)
  - i) Material;
  - ii) Number;
  - iii) Location;
  - iv) Design;
    - (1) Thread type
    - (2) Thread style
    - (3) Thread pitch
    - (4) Diameter;
    - (5) Thickness;
- k) Mass
  - i) Body;
  - ii) Closure(s)
- l) Closure means and methods.
  - i) Equipment used;
  - ii) Repeatable method.