

SEMI M26-0304 (Reapproved 1110) GUIDE FOR THE RE-USE OF 100, 125, 150 AND 200 mm WAFER SHIPPING BOXES USED TO TRANSPORT WAFERS

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1 Purpose

1.1 This Standard is a guide for box cleaning services, wafer suppliers, and wafer users for the re-use of 100, 125, 150, and 200 mm wafer shipping boxes.

1.2 Its purpose is to reduce the total cost relating to transport of 100, 125, 150 and 200 mm wafers from the wafer supplier to the customers.

2 Scope

2.1 This Guide stipulates materials relating to transport of 100, 125, 150 and 200 mm wafers using shipping boxes.

NOTICE: SEMI Standards and Safety Guidelines do not purport to address all safety issues associated with their use. It is the responsibility of the users of the Documents to establish appropriate safety and health practices, and determine the applicability of regulatory or other limitations prior to use.

3 Referenced Standards and Documents

3.1 SEMI Standards and Safety Guidelines

- SEMI M31 — Mechanical Specification for Front-Opening Shipping Box Used to Transport and Ship 300 mm Wafers
- SEMI M45 — Specification for 300 mm Wafer Shipping System

NOTICE: Unless otherwise indicated, all documents cited shall be the latest published versions.

4 Terminology

4.1 Definitions

4.1.1 *bag* — a package used for sealing the outside of the wafer box. Typically, two or three types of different plastic film and aluminum film are laminated, and these are usually heat-sealed. [SEMI M45]

4.1.2 *carrier* — an open structure that holds one or more substrates. [SEMI M31]

4.1.3 *label* — the label on the wafer shipping box identifying the product and its manufacturer. [SEMI M45]

4.1.4 *recycle* — to use an already used item for some other useful purpose. [SEMI M45]

4.1.5 *re-use* — to repeat use of an item in its original shape for the same purpose as initially intended. [SEMI M45]

4.1.6 *seam tape* — adhesive-coated tape employed to seal the seam between the cover and the base of a wafer shipping box.

4.1.7 *secondary container* — the outermost box of the smallest transport unit. Typically, cardboard boxes or similar boxes are used. [SEMI M45]

4.1.8 *shipping box* — a protective container for a carrier and/or wafer(s) that is used to ship wafers from the wafer suppliers to their customers. [SEMI M31]

5 Suitability for Re-Use

5.1 The ability to re-use wafer boxes and cassettes is adversely affected by certain characteristics. Some of these characteristics also impact on the ability to recycle.

5.2 *Wafer Shipping Box*

5.2.1 After a customer has transferred an accepted wafer to a fab carrier, the wafer shipping box must be returned to the supplier without having used it for any other purpose. The wafer shipping box will be inserted into a bag sealed prior to return to the wafer supplier using protective bag (agreed upon by supplier and customer).

5.2.2 The wafer shipping box will maintain its dimensional stability throughout its useful life.

5.2.3 Wafer shipping box materials will be recyclable after useful life.

5.2.4 The following characteristics are recommended:

5.2.4.1 generic embossed markings (e.g., model name, model number, manufacturer's information),

5.2.4.2 embossed recycle symbol, trademark symbol, mold markings,

5.2.4.3 removable labels with low residue, low tack adhesives,

5.2.4.4 removable seam tape with low residue, low tack adhesives,

5.2.4.5 removable methods of identification, and

5.2.4.6 stackable wafer box bases and covers.

5.2.5 The following characteristics are not recommended:

5.2.5.1 'custom' embossed markings,

5.2.5.2 end-user specific logos, symbols, and markings,

5.2.5.3 high residue tape and labels,

5.2.5.4 labels which are difficult to remove or are non-removable, and

5.2.5.5 non-removable marks such as inks and other coloring.

6 Procedural Guidelines

6.1 *Collection Method at the Wafer User Facility*

6.1.1 Unpack secondary containers and save for re-use or recycle.

6.1.2 Exercise care when removing the bag; avoid scuffing or cutting the wafer shipping box surface.

6.1.3 Remove wafers from box in cleanroom area.

6.1.4 Remove all labels from the box.

6.1.5 Place wafer shipping boxes for re-use in a designated collection container or collection area.

6.1.6 Maintain the wafer shipping boxes for re-use in an environment free from contact with metal contaminants and process chemicals.

6.1.7 Periodically return wafer shipping boxes for reclean to the reclean service location or the wafer supplier.

6.1.8 Whenever possible, cycle wafer shipping boxes between the same wafer user and wafer supplier.

6.2 *Wafer Shipping Boxes Cleaning at the Reclean Service Location*

6.2.1 The supplier of the reclean service must engineer the reclean process.

6.2.2 At the service supplier's option, visually inspect the wafer shipping boxes prior to cleaning. The service supplier and customer should agree to acceptable and unacceptable levels of defects, recognizing that there will be some normal wear. These levels should be provided to the service supplier. Inspect for the following defects:

6.2.2.1 deformation or warp,