

SEMI E64-0600

SPECIFICATION FOR 300 mm CART TO SEMI E15.1 DOCKING INTERFACE PORT

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1 Purpose

1.1 This specification defines a standard location on SEMI E15.1-compliant tools and requirements to be used for installing a docking interface for carrier transport carts. It is intended to promote a consistent interface location between carrier transport carts and SEMI E15.1-compliant wafer process or inspection equipment.

2 Scope

2.1 This standard covers 300 mm SEMI E15.1-compliant tools only. Similar requirements for other tools are not defined here.

2.2 This standard does not purport to address safety issues, if any, associated with its use. It is the responsibility of the users of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.

3 Limitations

3.1 This standard does not define interface functionality, lead-in, accuracy, carrier transfer, compliance, impact, or vibration restrictions. Cart and docking interface designs should comprehend physical limitations of tools to which they are being applied.

4 Referenced Standards

4.1 SEMI Standards

SEMI E15 — Specification for Tool Load Port

SEMI E15.1 — Specification for 300 mm Tool Load Port

SEMI E23 — Specification for Cassette Transfer Parallel I/O Interface

NOTE 1: As listed or revised, all documents cited shall be the latest publications of adopted standards.

5 Terminology

5.1 *automatic docking* — Contact motion is controlled or limited by the design of the cart or interface.

5.2 *carrier* — Any cassette, box, pod, or boat that contains wafers (per SEMI E15).

5.3 *cart* — A floor-based carrier transfer vehicle.

5.4 *docking* — The act of locating a floor-based carrier transport vehicle for carrier transfer to/from equipment.

5.5 *load face plane* — The furthest physical vertical boundary plane from carrier centroid on the side(s) of the equipment where loading of the tool is intended (per SEMI E15).

5.6 *load port* — The interface location on a tool where carriers are placed to allow the tool to process wafers (per SEMI E15).

5.7 *manual docking* — Contact motion controlled by the operator of the cart.

5.8 *transfer* — To either load or unload (per SEMI E15).

6 Requirements

6.1 The following exclusion volume is reserved on SEMI E15.1-compliant tools for the installation of a docking interface device. This volume is referred to as Zone L.

6.1.1 *Interface Zone L* — A volume, just above floor level, reserved in SEMI E15.1 for installation of a contact docking device.

6.1.1.1 The vertical bounds of Zone L are defined by the floor from which Dimension H is measured in SEMI E15.1 and the Height L_h , per Table 1.

6.1.1.2 The depth of Zone L into the tool is L_d , measured from the load face plane as defined in SEMI E15.1.

6.1.1.3 The width of Zone L, L_w , is the full width of the tool measured at the load face plane.

6.1.1.4 A device mounted in Zone L is to be physically isolated from the tool and should be mounted such that the tool and tool load port are protected from the impact incurred during docking.

6.1.1.5 Since docking devices must be mounted on the floor in Zone L, the equipment must not require the use of support pedestals or other support structures under the floor below Zone L.

Table 1 Dimensional Requirements for Docking Zone L

<i>Dimension</i>	<i>Value, mm (in.)</i>
Zone L depth, L_d	100 (3.9)
Zone L width, L_w	Width of tool
Zone L height, L_h	100 (3.9)

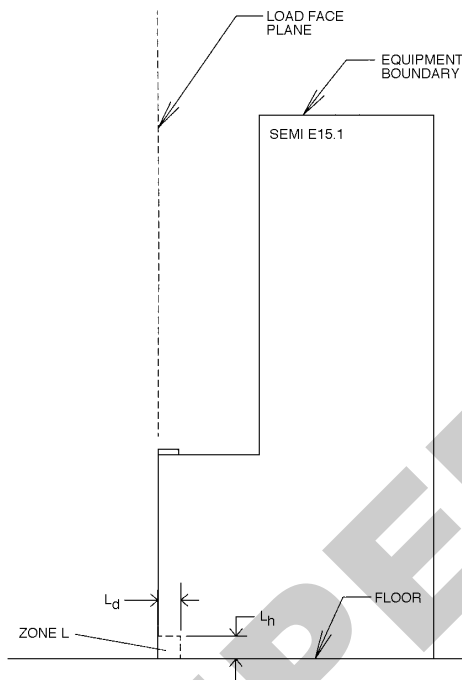


**Figure 1
Side Elevation View**

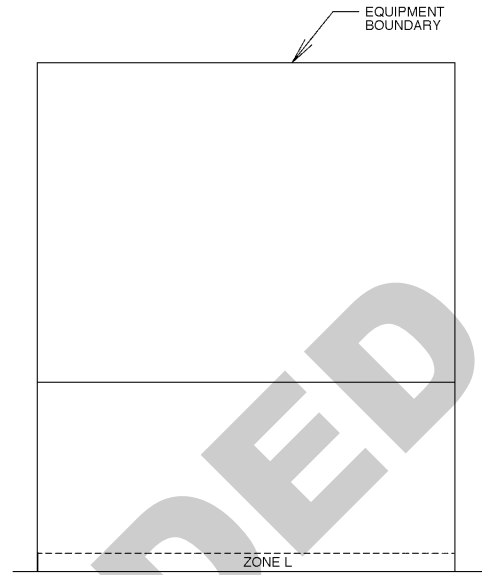


**Figure 2
Front Elevation View**

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