

Hydro Electronic Devices



Engineering Guidelines

EG-400-000

Packaging and Cleanliness Guidelines

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Author	Tom Edwards
Sign-Off Authority V.P. of Operations <i>Tom Szewczyk</i>	Signature _____ Date _____.
Purchasing Manager <i>Rosie Baumann</i>	Signature _____ Date _____.

1.0 Objective

This guideline defines the packaging and cleanliness suggestions from HED[®] for accepted parts, and is used to clarify the drawing documentation by removing language common to all documents and placing it in a single repository.

2.0 Scope

This document encompasses the packaging and cleanliness suggestions for any parts or assemblies manufactured or supplied to HED[®] by a supplier.

3.0 Definitions

3.1 Engineering Documentation

An Engineering document is any drawing, specification, parts list, artwork or other type of document that originates in the Engineering department. These documents define the performance, design, procurement, fabrication, assembly, test and inspection of a given part, assembly or product.

3.2 Supplier

Any source providing services to HED[®]. These services may include, but are not limited to, sources providing fabricated parts, assemblies, printed circuit boards, tooling and fixturing made specifically for HED[®]; and sources providing items not specifically made for HED[®] such as fasteners, switches, and joysticks etc.

3.3 Packaging

3.3.1 Unit Package

A package that contains a single part number, a quantity of the same part, a set of an item with all its component parts.

3.3.2 Intermediate Package

A wrap, box or bundle that contains two or more unit packs of identical items, and that is in turn enclosed by a shipping container.

3.3.3 Shipping Container

A container that is sufficiently strong enough to be used in commerce for packaging, storing and shipping commodities.

1. Acceptance Criteria

Any shipping container used in regards to this guideline should conform to:

- Product is damage free
- Package is intact

2. Assurance Level

Any shipping container used in regards to this guideline should conform to ASTM D4169 -Standard Practice for Performance Testing of Shipping Containers and Systems and shall be tested at Assurance Level 1.

3. Distribution Cycle

Any shipping container used in regards to this guideline must conform to ASTM D4169 -Standard Practice for Performance Testing of Shipping Containers and Systems and shall be tested with Distribution Cycle Number 13, with elements A, D, F, G and A, in order as shown.

4.0 Requirements

The following requirements are to be used in the absence of any special requirements for Packaging or Cleanliness on the Engineering documentation. If a special requirement is listed on the Engineering documentation, then that requirement will take precedence over any conflicting requirement within this document.

4.1 Cleanliness

Parts delivered to HED® shall be free of dirt and other contaminants which would contribute to deterioration of the item or which would require cleaning by HED® prior to use. Coatings and preservations applied to the item for protection are not considered contaminants, unless otherwise specified.

4.2 Packaging

The following requirements, unless specifically changed by the contract or drawing, shall apply:

4.2.1 General Packaging

1. Cleanliness

Cleanliness shall follow Section 4.1

2. Preservation

Items susceptible to corrosion or deterioration shall be provided protection such as preservative coatings, volatile corrosion inhibitors or desiccated unit packs.

3. Cushioning

Wrapping, cushioning, pack compartmentalization, cartoning, or other means to mitigate shock and vibration during handling shall protect items requiring protection from physical and mechanical damage or which are fragile in nature.

4. Electro-Static Discharge Protection

All items susceptible to ESD damage must be packaged in ESD approved containers.

5. Labeling Requirements for Shipping Cartons

Note: Only applicable for HED® proprietary components.

The following is required on each carton:

HED® purchase order number -

HED® part number -

Revision Level -

Quantity -

Ship Date -

Box # of # (if more than one container)

Bar Code - (TBD)

NOTE: Using a product label (requirements below) with a quantity (printed label or written) next to the label for each part in the carton, is the preferred method for HED® part number, quantity and Description requirements.

4.2.2 Unit Package

1. Unit Package

A unit package shall be so designated and constructed that it will contain the contents with no damage to them and with minimal damage to the unit pack during shipment and storage in the shipping container and will allow subsequent handling.

- **Cosmetically Critical Packaging**

Parts designated per print as customer visible / cosmetically critical, must be packaged, covered completely in 4MIL poly bags or equivalent cushioning.

Parts must be packaged completely separated from one another by rigid, corrugated material or equivalent.

Cosmetically critical parts must be packaged to permit easy removal from the carton without damage or coming into contact with other parts during removal.

Additionally, any protruding sharp hardware (PEM style screws, studs, pins, etc.) on cosmetically critical parts must be covered by plastic or rubber boots or equivalent.

- **Functional Critical Packaging**
Parts designated per print as functionally critical must be packaged completely separated from one another by rigid, corrugated material or equivalent. Functionally critical parts must be packaged to permit easy removal from the carton without damage.
- **Unit Package Size**
Excessively heavy (>35 lbs.) or bulky (>78" HxWxD total) unit packaging for parts designated cosmetically or functionally critical is not permitted. Good handling and shipping practices should be observed.

2. Unit Package Quantity

Unless otherwise specified, the unit package quantity shall be one part number, set or assembly. Exempted are small lightweight items, for example: Hardware, which will be unit packaged by dozen, fifty, hundred, gross or other quantities that are standard in the trade and suitable for sales. Bulk packaging is specifically excluded unless specified in the contract or on the drawing.

4.2.3 Intermediate Package

The use of intermediate packaging is required to facilitate handling and inventory whenever the quantity is over 1 gross and the size of the unit package is 6400 in³ or less.

4.2.4 Packing

Unit packages and intermediate packages not meeting the requirements for a shipping container (See Section 3.4) shall be packed in shipping containers.

1. Shipping Containers

The shipping container (including any necessary blocking, bracing, cushioning or waterproofing) shall comply with the regulations of the carrier used and shall provide safe delivery at the lowest tariff cost. It shall be capable of multiple handling and storage under favorable conditions for a minimum of 1 year.

4.2.5 Unitization

Shipments should be considered for unitization where appropriate. Unitization encompasses, but is not limited to, consolidation in a container or placement on a pallet. (Max height of 40" for pallets – including pallet height)

4.2.6 Marking

All markings shall be legible and applied with a waterproof ink.

1. Unit and Intermediate Marking

Marking for the unit and intermediate container shall include:

- HED[®] part number
- Revision Level
- Quantity enclosed
- HED[®] purchase order number
- Lot number / work order, if applicable

2. Shipping Container Marking

Minimum markings shall include:

- Name and address of supplier
- Name and address for delivery to HED[®]
- HED[®] part number



5.0 Deviations

HED® Engineer may approve any deviations to this guideline. All deviations must be communicated in writing to both the supplier and HED® Purchasing.

Revision History

Rev.	Date	Sections Affected / Description
A	07/31/12	Initial Release.