Composite P-Clamps

1. INTRODUCTION

The purpose of this instruction sheet is to detail procedures for installation of TE Connectivity p-clamps, component number THA-PDKG-XX, where -XX indicates a nominal inside diameter of the cushion measured in 1/16ths inches. As an example, THA-PDKG-13 represents a nominal internal diameter of 13/16ths inches. Internal diameters will accommodate materials ±1/16 inches from nominal.

These installation instructions are specific to product that utilizes chloroprene cushion material.

Description, Generic	TE Connectivity Part Numbers	TE Connectivity Drawing
Composite P-Clamp	Refer to Customer Drawing	THA-PDKG-XX

2. PRE-INSTALLTION REQUIREMENTS

2.1. Mounting Surfaces

A flat mounting surface capable of withstanding the mechanical and environmental requirements associated with the application and compatible with the mechanical and environmental requirements of the p-clamp shall be engineered and provided by the customer.

2.2. Mounting Locations

Mounting locations shall be selected that accommodate the rotation of the upper clamp member of the p-clamp housing during the installation of the wire bundle.

Operation of the secondary locking pin in areas adjacent a bulkhead shall be considered. A mounting location shall be selected that accommodates the rotation of the secondary locking pin while latching and releasing the upper clamp member.

Stand-offs may be used for mounting p-clamps but shall be evaluated by the customer to confirm performance in the specified mounting location and at the specified loading.

2.3. Fasteners

A fastener of the correct size, type and length must be defined by the customer prior to installation.

Fastener size: Recommended fastener is ANSI size 10, metric size M5 or equivalent. Thread pitch shall be at the discretion of the customer.

Fastener Head / Drive Type: The fastener head type and fastener drive type is optional. Fasteners with large diameter heads or with elongated heads may interfere with the opening and closing operation of the p-clamp and shall be validated prior to specification. Head and drive type selection shall be considered when pairs of clamps are mounted face-to-face in a “butterfly” configuration.

Fastener length: Fastener length shall be defined by the customer and shall accommodate the thickness of the p-clamp mounting flange and the thickness of a load-bearing washer. Note that the p-clamp mounting flange thickness increases with the size of the p-clamp. Refer to TE Connectivity customer drawings to determine the thickness of the p-clamp mounting flange. Load-bearing washers are required between the head of the fastener and the top surface of the lower clamp member mounting flange (Example: NAS1149F0363P, or equivalent).

Mounting fastener torque requirements shall be defined by the customer but shall not exceed 53 pound-inches.

2.4. P-Clamp Size Selection

The size of the p-clamp shall be determined by the customer for the specific application. TE Connectivity p-clamps are designed to provide support for materials that are in the range of the nominal size of the p-clamp +/- 1/16 inches [1.5mm]. Excessive clearance will result in unsecured materials. Excessive material size with result in difficulty closing and latching the p-clamp. The use of tools or auxiliary apparatus to aid in the closure of the p-clamp is not recommended by TE Connectivity.

2.5. P-Clamp Environmental Considerations

Fluid resistance has been tested in accordance with TE Connectivity Qualification Test Plan 109-163005 which includes general purpose fluids typically used in aircraft.

TE Connectivity p-clamps meet typical smoke generation and toxic gas generation testing requirements as required in aircraft and aerospace applications.

CAUTION Chloroprene cushion material is not resistant to phosphate ester-based fluids.

CAUTION Chloroprene cushion material is not recommended for use on titanium tubing.

3. INSTALLATION TOOLS

3.1. The following tools are recommended for mounting of the p-clamp to a given structure:

Fastener torque wrench capable of meeting customer defined torque specification.

Fastener drive bit for torque wrench, compatible with the customer's fastener drive type.

4. INSTALLATION OF MATERIALS WITHIN THE P-CLAMP

4.1. Mounting and torqueing of the p-clamp to its mounting location prior to material installation is recommended. The p-clamp shall be oriented to the longitudinal axis of the material to be supported. At the discretion of the customer, quality inspection may be performed following this installation operation.

4.2. Prior to material installation within the p-clamp, and at the discretion of the customer, the upper member of the p-clamp may be rotated to an open position and held open with the initial detent feature provided in the hinge area. Notes: P-Clamps shall not be opened past the secondary stop feature provided in the hinge area.

CAUTION To avoid damage to the p-clamp, avoid placing excessive side loading on the upper member of the p-clamp when in the open position.

4.3. With the upper member of the p-clamp open, material to be supported shall be placed into the p-clamp.

4.4. Prior to closing the p-clamp, confirm that the secondary locking pin is rotated to a neutral position.

4.5. The upper clamp member of the p-clamp shall be rotated into a closed position such that the primary latching teeth are engaged. Note: If reorientation of the supported material is required, or if several independent materials will be sequentially placed in the p-clamp over time, it is recommended that the p-clamp be closed between reorientation or placements to prevent inadvertent damage to the p-clamp and/or the material.

4.6. Prior to engaging the lighter-colored, secondary locking pin, ensure that materials to be supported are centrally located in the cushion area and not between the ends of the cushion. Relocate materials to be supported as required.

4.7. As viewed from the top side, opposite the flat mounting surface, rotate the secondary locking pin clockwise into its fully closed and latched position such that the upper portion of the pin clicks into its detent position, and is parallel to the axis of the supported materials.

5. REMOVAL OF MATERIALS FROM THE P-CLAMP

5.1. Rotate the secondary locking pin counter-clockwise, as viewed from the top, until it reaches a full stop position. At this point the upper clamp member of the p-clamp is free to open and supported materials may be removed or reoriented as required.

5.2. Following this procedure, it is recommended that the p-clamp be returned to a closed position to prevent inadvertent damage to the p-clamp and/or other material.