

Evaluation Checklist for Press-Fit Applications

Press-Fit technology offers an excellent alternative for creating reliable electro-mechanical interconnects without using solder. Press-Fit interconnects can be adapted to support a wide range of application requirements such as PCB-to-PCB stacking interconnects, fuse holders, molded modules, smart junction boxes, controllers, lighting and a variety of other custom applications.

Performance testing has demonstrated that Press-Fit pins satisfy stringent operational requirements as defined by IEC, EIA and SAE specifications and they have been qualified to 150° C temperatures. Depending on the pin configuration, Press-Fit interconnects can provide retention force of up to 14 lbs. Press-Fit terminals are compatible with industry standard PCB finishes and Plated Through Hole (PTH) technologies. Standard Press-Fit terminal plating is Matte-Tin over Nickel, with options for a variety of precious metal platings as needed.



In order to evaluate the use of Press-Fit interconnect technology for any particular application, engineering staff should consider a comprehensive range of issues. The following outline provides an overview of the questions that should be considered in the evaluation.

NOTE: this checklist is offered primarily as a general guideline and specific issues can be discussed with your Interplex applications engineering consultant.

Application

- What is the product application and required operating temperature?
- Is the final assembly sealed and is the press-fit connection environmentally protected?
- If automotive, where is the part located in the vehicle (in-cabin, underhood, etc.)?
- Is this a new application or conversion of an existing solder pin or solid pin interface?

Design

- What is the pin thickness and blade size required?
- What is the current-carrying power requirement for the contact?
- What are the plating requirements for the interconnect portion of the press-fit pins?
- Is there a drawing available for the mating connector system?

Printed Circuit Board

- What is the PCB thickness, PCB material type, Tg rating and plating?
- Is it a multi-layer or dual-layer PCB?
- Is there flexibility to specify the drill-hole and plated-through requirements?

Assembly

- How will the press-fit interconnect be assembled. If direct-insertion, is a target machine in place or has a machine been selected?
- How is the assembly process controlled? What locates the PCB relative to the press-fit pin site?

Testing and Qualification

- Are there internal or special customer performance requirements for the press-fit interface?
- Does the IEC standard apply?
- Is there an existing internal qualification process or special testing requirements?
- What type of drawing is needed for engineering approval and documentation?

Business Case

- Who is the end customer and what are the market requirements?
- What is the estimated annual volume of parts?
- What is the target cost for the interconnect?
- What are schedule requirements (design, prototype, beta-testing, start of production)?
- When are samples needed?

Every application has unique requirements and the above questions are primarily intended to provide a starting point for evaluating the potential use of Press-Fit technology. Information gathered through the answers to this initial questionnaire can be used as a foundation to help guide the development of design alternatives and the optimization of Press-Fit technology for the specific application.

More information regarding Press-Fit technologies and products can be found on the web by visiting www.interplex.com or by calling (718) 961-6212.