



41 Suttons Lane
Piscataway, NJ 08854
800.580.6268
732.985.7815 ♦ 732.985.7816 fax
www.pei2000.com

TECHNICAL DESIGN CRITERIA PEI STANDARDS

Many of PEI's design and technical standards come into play after the customer has approved the assembly drawing and we are developing the panel details. As such, it is not necessary for our customers to deal with those standards when developing their basic enclosure design.

However, there are some issues that our customers need to address so as to save time and eliminate costly features or attributes. In particular, we recommend that our customers adhere (or try to adhere) to some basic PEI guidelines.

Guidelines - PEI Standards & Specifications

- 1) Keep the edges of holes and cut features a minimum of .200/(5mm) away from a bend joint. Closer placement is possible, but is more difficult to control deformation and should be avoided whenever possible.
- 2) Dimension from only one surface of a plastic wall...either the inside surface or the outside...but not from both.
- 3) Specify screws no smaller than #4 self-tapping or 4-40 machine thread. Smaller screws and threaded inserts are very difficult to handle and seldom provide a better alternative to a larger size.
- 4) Use threaded inserts for applications where the screw will be removed repeatedly.
- 5) Use self-tapping screws for fastening items that are never or seldom removed, such as a PCB or small LCD display.
- 6) Keep curves, arcs, and rounds to a minimum. These are costly features and should be used effectively. Extensive use of these features can increase the cost of an enclosure by 10% to 30%!
- 7) Use clear panels or windows judiciously. Clear plastic is more prone to scratching and can render an enclosure useless when marred or damaged.
- 8) Do not specify a material thickness that is either too thick or too thin for the application. Most enclosures have an ideal thickness and using something that is not ideal will ultimately drive up the cost.
- 9) Select the plastic material type, color, texture, and thickness as recommended on our "Materials Specifications" sheet.
- 10) During initial design, allow for flexibility in connector hole and/or PCB board placement. Standoffs come in specific lengths and being able to adjust your height specifications can reduce assembly costs.
- 11) Do not specify that the enclosure pass a drop test that the internal electronics will not! If the unit is dropped and the electronics will fail, then over engineering the enclosure will only add cost without a payback.
- 12) For 90 degree bends, the outside radius will be equal to the material thickness; i.e. 0.125" thick material will have 0.125 outside radius when bent to 90 degrees.

As with all such rules and charts, the above list is meant only as guideline and, as such, before making unnecessary compromises or deletions of features with your design you should contact one of our engineers to discuss your specific need.

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