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TECHNICAL DESIGN CRITERIA BENDS & CURVES

When most people think of fabricated enclosures, they think of square, sharp cornered, boxie cubes. However, over the years, we at PEI have continuously pushed our design capabilities such that today we can offer enclosures with very attractive curves and contoured surfaces.

Among the more popular features in this area are:

Front Panel Arcs

Rounded Front Bullet Nose

3 Corner, Single-round

2 Corner, Double-round

Full Wrap, Quad-round

Technique

In order to minimize the deformation of the plastic during the forming of a curved or rounded surface, we minimize the amount of heat, which can cause texture degradation or panel shrinkage. As such, our method for developing curves involves special surface machining and cold-rolling of the plastic panels which allows for a smooth, continuous, and uniform flowing of an arc throughout a bend radius.

As a visual aid for those engineers attempting to develop an enclosure design specifically for our process, we suggest you envision how a piece of paper would be manipulated to form curves and non-flat surfaces. Just as you can bend paper along a single axis, you can also bend plastic sheets along an axis.

Furthermore, depending on the complexity of the joint and the angles of attack, you can have two curved surfaces meet in such a manner as to form a very complex shape. In this manner, your enclosure can have curved shapes from multiple angles thus giving a very dynamic overall appearance.

Finally, on this subject, as with all complex features, we recommend you use them judiciously. While curved surfaces and rounded corners can add sex appeal to the look of your enclosure, such features add cost and should be used to accent and enhance the products marketability.

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