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ENGINEERING PROCESS OVERVIEW

The foundation of the PEI process is anchored in our ability to design manufacturable enclosures without the use of hard tooling. This 'No Tooling' approach not only reduces the cost for low volume production, it also allows us to deliver design drawings, prototype parts, and production run quantities in a matter of days or weeks as opposed to months. To accomplish this, we rely heavily on our engineering team and the Pro/Engineer CAD/CAM tools they employ to quickly develop complex and aesthetically appealing enclosures.

Because of our 'No Tooling' process, every project regardless of size or simplicity must go through the design process (CAD) in order to create the manufacturing (CAM) files used to produce the parts. We refer to these CAM files as our 'Soft Tooling', in the same manner that a molding company refers to their molds as 'hard tooling.'

The engineering process for a new product involves four distinct activities or stages:

Quotation and Pre-design

While this stage takes place before an actual P.O. or Work Order is initiated, the basis for all following engineering activity will result from how the product is conceptualized during this stage of development. Typically, customer supplied drawings and sketches are received at this time and all features and functions are defined in order to calculate an accurate cost of the project.

Design Development

During this stage, the details of product including finite dimensions, components, materials, etc. are defined. At the completion of this stage, an Assembly Drawing is presented to the customer for their approval.

CAM Development

After the PEI design is approved, our engineer develops the manufacturing files and CNC machine tool paths that will be used to produce the product. This stage is actually an extension of the Design Development stage and typically marks the half-way point of the product designing process.

Prototype Development

This is the final stage of the engineering process where our engineering department begins working with our manufacturing department to produce the final product. During this stage, both the product and the manufacturing process are reviewed and needed adjustments are initiated.

These four stages are further explained under the topic headings Quote Phase, Design Phase, and Prototype Phase.

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