

## PCB Layout Considerations

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### **Prior to beginning a new PCB layout, what does the PCB Designer need?**

Following is an outline of the items required prior to beginning on a layout by the designer for him to complete his work in a timely manner. This is a partial list for a specific type of layout and does not apply to all types of printed circuit layouts. Any specific type may require additional items and some will require less. i.e. A PCB used in a computer has different layout requirements than those used in "down hole" equipment. The items listed are general items needed by a designer in any field.

PCB Name \_\_\_\_\_ Project \_\_\_\_\_ Part Number \_\_\_\_\_

1. **Mechanical Outline:**

Board Outline, Connector Placement, Pre-placed components ,I/O , Mechanical Constraints, Keep-Outs (Routing and Component), Mounting Holes, Connector Key Slots, Tooling Holes, Ventilation Holes, etc.

2. **Design Rules**

Technology , Trace and Space, Delay Rules, Matched Pairs, Busses, Differential Pairs, Layer Copper Weights, Component Placement, etc.

3. **Logic Data**

Net-list, Reference Schematic.

4. **Library Parts**

Footprints, Pad Stacks, Coupons, etc

5. **Board Stack-Up**

Number of Signal Layers, Number of Plane Layers, Layer Balance.

6. **Test Requirements**

Functional and In-Circuit Test (ICT)

7. **Power Requirements**

Voltage Planes, Vcc, Vdd, +3 V, +12V, etc. and Ground Planes.

8. **Assembly Process**

Wave Solder, Reflow Solder, Manual Solder.

9. **Panelization**

Fabrication, Assembly.

10. **Schedule**

Layout, Fabrication, Assembly.

If the above list does not include items required by your type of design, feel free to add your specific considerations.

Hopefully this list will give you a more "heads up" of what to ask for from your Engineer. Use it to your advantage.