

## Printed Circuit Board Design Limits

Below lists what you can achieve working with Candor Industries.

*Rigid, rigid-flex, and flex circuit boards have the same design limits.*

Specification	Design Limit
Minimum Trace Width	2 Mil
Outer Layer Via Pad Size	Class 3: 2 Mil, and capable up to landless via
Line to Line Spacing	2 Mil
Minimum Through Hole Drilled	Minimum: 6 Mil
Minimum Buried Via Drilled	Minimum: 6 Mil
Minimum Blind Via Drilled	Minimum: 4 Mil
Blind Via Aspect Ratio	8:1 Aspect Ratio
Maximum PCB Thickness	.3"
Number of Layers	40 Layers
Controlled Impedance Tolerance	+/- 1% Tolerance
Maximum Board Size	19.5" X 22.5"
Copper Thickness/Density	Able to meet customer requirements.
Minimum Drill-to-Conductor	6 Mil (edge of hole to track)
PCB Edge to Conductor	2 Mil
Warp (Bow and Twist)	Exceeds IPC-TM-650
Solder Mask Clearance	2 Mil
Solder Mask DAM	2 Mil

## Printed Circuit Board Materials

List of Materials Candor uses:

Material Type	Suppliers	Products
Regular FR4	<a href="#">Isola</a> , Taiwan Leader, <a href="#">King Board</a> , <a href="#">Ventec</a>	KB6160, TLFR4135, FR406, VT42
HiTg FR4	<a href="#">King Board</a> , <a href="#">Panasonic</a> , <a href="#">Ventec</a> , <a href="#">Isola</a>	KB6167, R1755v, 370HR, VT47
Special FR4	<a href="#">Isola</a>	IS410, FR408
RF / High Frequency Material	<a href="#">Rogers</a> , Arlon	RO4000, RO4500, AD250
PTFE / High Frequency / Ceramic based	<a href="#">Rogers</a> , Arlon	RO5880, AD350, AD450
Polyimide	<a href="#">Isola</a> , <a href="#">Nelco</a>	P96, N25
Getek	<a href="#">Isola</a>	Getek
BLACK FR4	<a href="#">Ventec</a>	VT42-B
Flex Core	<a href="#">DuPont</a> , <a href="#">Apexyl</a>	AP Series
Flex Adhesive	<a href="#">DuPont</a> , <a href="#">Apexyl</a>	LF/FR series
Flex Coverlay	<a href="#">DuPont</a> , <a href="#">Apexyl</a>	LF/FR series

**Additional materials can be ordered depending on customer needs.**

## Manufacturing Turn Around

Turnaround	Maximum Layer Count
1 day	Up to 6 Layers
2 days	Up to 12 Layers
3 days	Up to 26 Layers
5 days	Up to 26 Layers
> 5 days	Up to 40 Layers

## Other Specifications

Specifications	Achievable
Via Plugging	No Mask on Via, Partially Plugged, Plugged Mask with Via, and Non-conductive/conductive Epoxy
Solder Mask Colour	As per customer requirements
Silkscreen Colour	As per customer requirements
Liquid Photo Image-able Silkscreen	As per customer requirements
Board Finishes	Board Edge Plating Conductive Carbon Ink Conductive Via Fill Non-Conductive Via Fill Deep Soft Gold Electrolytic Gold (Hard Gold) ENIG (Electroless Nickel/Immersion Gold) Hot Air Solder Level -HASL Hot Air Tin Level - HAL (Lead Free) Immersion Silver Immersion Tin
Electrical Testing	Grid Test or Flying Probe Test