

## 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	Under +- 5% 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 8 Layers
2 days	Up to 16 Layers
3 days	Up to 26 Layers
5 days or greater	As many as required by customer

## 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 Imageable 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