



# PCB Universe Rigid PCB Manufacturing Capabilities

PCB Types	
CAP or Foil Construction	Controlled Impedance
Blind/Buried via	Mixed Inner Copper Weights
Flex	Mixed Materials
Rigid-Flex	(HDI) High Density Interconnect
Aluminum Core (single sided to multi-layer)	Via-In-Pad Process

Item	English	Metric
<b>LAMINATE</b>		
Max Board Thickness	314.96 mil	8.00 mm
Min Board Thickness (2 Layers)	10 mil	.254 mm
Min Board Thickness (4 Layers)	11.8 mil	0.3 mm
Min Core Thickness ( <i>Not including copper</i> )	2 mil	0.05 mm
Largest Panel Size	23.62" x 39.37"	599.95 mm x 999.99 mm
Min Pre-Preg Thickness	2.3 mil	0.051 mm
Board Thickness Tolerance (Standard)	+/-10%, or 5mils, whichever is greater	
Board Thickness Tolerance (Upon Request)	+/-5%	
<b>COPPER</b>		
Max Inner Layer Copper Thickness	6oz	0.20 mm
Min Inner Layer Copper Thickness	0.3 oz	0.01 mm
Max Outer Layer Copper Thickness	11oz	0.383 mm
Min Outer Layer Copper Thickness (no plating in holes)	0.25oz	0.009 mm
<b>DRILL</b>		
Min Mechanical Drill Size	6 mil	0.15mm
Min Laser Drill Size	3 mil	0.076 mm
Min Mechanical Aspect Ratio ( <i>Laminate / Drill</i> )	12/1	
<b>TRACES / SPACES</b>		
Min Line Width/Spacing (Outer Layer)	3 / 3.5 mil	0.072 mm/0.089 mm
Min Line Width/Spacing (Inner Layer)	3 / 3.5 mil	0.072 mm/0.089 mm
Min Copper Space to outline CNC Rout / Score	10 / 12 mil	0.25 mm / 0.3 mm
<b>SOLDER MASK COLORS</b>		
Green, Matte Green, Light Green, Black, Matte Black, White, Yellow, Red, Blue, Clear	<b>SILK SCREEN COLORS</b> White, Black, Yellow, Red, Blue, Green	
<b>CONTROLLED IMPEDANCE</b>		
Controlled Impedance (Standard)	+/- 10%	
Controlled Impedance (Upon Request)	+/- 7%	
<b>SURFACE FINISHES</b>		
Lead Solder (HASL)	OSP (Entek)	
Lead Free Solder (HASL)	Deep/Hard/Flash Gold (Electrolytic Nickel Gold)	
Immersion Gold (Electroless Nickel Gold - ENIG)	Wire Bondable Gold (99.99% Pure Gold)	
Immersion Silver	Carbon Ink	
Immersion Tin (White Tin)	Gold Finger (Hard Gold)	
<b>MATERIALS</b>		
FR4 RoHS (135°C Tg)	Flex	
FR4 RoHS (170°C-180°C Tg)	Rigid-Flex	
Aluminum		

***If you do not see your spec above please contact your sales person for review.  
Our capabilities are continuously evolving!***