



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, double and multi-layer)	

Item	English	Metric
LAMINATE		
Max Board Thickness	314.96 mil	8.00 mm
Min Board Thickness (2 Layers)	6 mil	0.15 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	22.5" x 33.5"	571 mm x 850 mm
Min Pre-Preg Thickness	2.3 mil	0.051 mm
Board Thickness Tolerance (Standard)	+/- 10%	
Board Thickness Tolerance (Upon Request)	+/- 7%	
COPPER		
Max Inner Layer Copper Thickness	4oz	0.14 mm
Min Inner Layer Copper Thickness	0.3 oz	0.01 mm
Max Outer Layer Copper Thickness	7oz	0.243 mm
Min Outer Layer Copper Thickness	0.75 oz	0.026 mm
DRILL		
Min Drill Size	8 mil	0.203 mm
Min Laser Drill Size	3 mil	0.076 mm
Min Mechanical Aspect Ratio (<i>Laminate / Drill</i>)	12/1	
TRACES / SPACES		
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 SMT Pitch	6 mil	0.15 mm
Min BGA Pitch	4 mil	0.1 mm
SOLDER MASK		
Min Solder Mask Print Width (Mask Dam)	4 mil	0.1 mm
Solder Mask Registration Tolerance	+/- 2 mil	0.050 mm
CONTROLLED IMPEDANCE		
Controlled Impedance (Standard)	+/- 10%	
Controlled Impedance (Upon Request)	+/- 7%	
SURFACE FINISHES		
Lead Solder (HASL)	OSP (Entek)	
Lead Free Solder (HASL)	Deep/Hard Gold (Electrolytic Nickel Gold)	
Immersion Gold (Electroless Nickel Gold - ENIG)	Wire Bondable Gold (99.99% Pure Gold)	
Immersion Silver	Flash Gold	
Immersion Tin (White Tin)	Carbon Ink	
MATERIALS		
FR4 (135°C Tg) Standard (Nan-Ya, Norplex, ITEQ)	Rogers	
FR4 (170°C Tg) High Temp (Nan-Ya, Norplex, ITEQ)	Polyimide (Kapton)	
Ceramic	Nelco	
GeTek	Aluminum Core	