



Capability Checklist For Non Standard Ragworm Orders

Feature	FR4	Metal PCB
Acceptance Standard	IPC-A-600 Class 2 and IPC-A-600 Class 3	
Base Material	Standard and High TG	Aluminum, Copper 0.4 to 8 W/mK
Layer Count	1 to 24	
Finished Board Thickness in mm	0.5 to 3.2	0.5 to 3.2
Minimum Inner Layer Core	0.10mm	
Maximum Circuit Size in mm (Inch in Brackets)	1 to 2 Layers = 572 x 435 (22.5 x 17) Multilayer = 514 x 417 (20.25 x 16.4)	Single Layer = 584 x 435 (23 x 17)
Finish Copper Thickness (Surface)	18µm to 175µm (½ to 5oz)	35µm to 175µm (1 to 5oz)
Finish Copper Thickness (Hole)	25µm	
Min Track, Gap and Annular Ring	Track and Annular Ring 18µm = 0.10mm 35µm = 0.10mm 70µm = 0.15mm 105µm = 0.20mm 140µm = 0.30mm	Gaps 18µm = 0.10mm 35µm = 0.15mm 70µm = 0.20mm 105µm = 0.30mm 140µm = 0.40mm
Minimum Finished Hole Size	0.15mm = up to 1.6mm thickness 0.25mm = 1.6mm to 2.4mm thickness 0.35mm = 2.4mm to 3.2mm thickness	
Aspect Ratio	8:1	
Minimum Hole to Copper	0.20mm Clearance	
General Tolerances (mm)	Plated Through Hole = +/- 0.05 Unplated Holes = +/- 0.05 Routed Features = +/- 0.10	
V-Cut Angle	30 degree	
V-Score Tolerances (mm)	Score line to circuit pattern = +/- 0.25 Score line to score line = +/- 0.15 Minimum air gap from copper edge to center of score line = 0.50	
	Remaining web thickness = 0.4 +/- 0.1	Remaining web thickness = 0.3 +/- 0.1
Edge Chamfer	Between 30° and 45°	
Minimum Distance Between Copper and Chamfered Edge	$((\text{Material Thickness} / 3) * \text{Tan}[\text{Angle}]) + 0.1\text{mm}$	
Solder Mask	Dam/web width 0.075mm for 1oz base copper 0.100mm for 2oz base copper 0.125mm for 3oz base copper 0.150mm for 4oz base copper	Clearance to Copper 0.050mm for 1oz base copper 0.075mm for 2oz base copper 0.100mm for 3oz base copper 0.125mm for 4oz base copper
Solder Mask Colours	Matt Green – Light Green Gloss – White Gloss – Dark Blue Gloss – Red Gloss – Black Gloss. If your colour cannot be found here please enquire for our specialized colour offerings.	
Peelable Mask	Minimum feature = 0.50mm Maximum tented hole = 3.00mm	
Silk Screen/Ident	Minimum feature = 0.15mm Minimum Clearance = 0.20mm	
Silk Screen Inks	White – Yellow – Black	
Minimum Hole to Copper	0.20mm Clearance	
Standard Surface Finish	Electroless Nickel Gold, Immersion Silver, Leaded, Lead Free Hot Air Solder Level, Hard Gold, and OSP	