

Normal FR4		Overall thickness range and tolerances	
S1141 (Tg 140°C)	8 layers	Overall board thickness	0.25 mm ~ 8 mm
S1000H (Tg 150°C)	14 layers	Overall board thickness tolerances	
S1000-2 (Tg 170°C)	32 layers	≤ 1.0 mm	Standard: ± 0.1 mm
KB6160	6 layers	> 1.0 mm	Standard: ± 10 %
RoHS		Thinnest dielectric finished	
SYL series	32 layers	Thin board overall thickness	0.25 mm
Isola FR408HR	32 layers	Thinnest plated core	0.1 mm
ITEQ-180A	32 layers	Special Products / Capability	
Arlon 85N	6 layers	Heavy copper up to 15 oz - 525 μm (inner and outer layers)	Yes
RF materials		Heat sink (aluminium & copper)	Yes
Rogers 4000 series	26 layers	Backplates and Back drill	Yes
Rogers 3000 series	4 layers	Embedded magnetic core	Yes
Rogers RT5870/5880 series	4 layers	Step board (bottom pad and plated of hole wall)	Yes
Taconic RF30 RF35 TLX-8	6 layers	Rigid-flex board	Yes
Arlon TC350, TC600	4 layers	Aluminium based rigid-flex board	Yes
Arlon 25N/25FR	26 layers	Heavy copper with blind/buried vias up to 6 oz - 210 μm	Yes
Rigid-flexible material			
SYL SF202	10 layers		
SYL SF302 (adhesive type)	8 layers		
SYL SF305 (halogen free)	12 layers		
Arlon 49N	12 layers		
DuPont AK	12 layers		

Pad diameter to drilled hole size		Inner layer capabilities		Outer layers capabilities	
Component holes (inner layer)	Drilled size plus 0.012" – 0.3 mm	Minimum conductor width and spacing			
Component holes (outer layer)	Drilled size plus 0.012" – 0.3 mm	Internal starting Cu 1/3 oz – 12 µm	0.003" – 75 µm finished	External Cu finished thickness 1 oz – 35 µm	0.003" – 75 µm finished
Via holes (inner layer)	Drilled size plus 0.008" – 0.2 mm	Internal starting Cu 1/2 oz – 18 µm	0.0035" – 88 µm finished	External Cu finished thickness 1.5 oz – 52 µm	0.004" – 100 µm finished
Via holes (outer layer)	Drilled size plus 0.008" – 0.2 mm	Internal starting Cu 1 oz – 35 µm	0.004" – 100 µm finished	External Cu finished thickness 2 oz – 70 µm	0.006" – 150 µm finished
<b>Pad diameter to laser ablated hole size</b>		Internal starting Cu 2 oz – 70 µm	0.006" – 150 µm finished	External Cu finished thickness 3 oz – 105 µm	0.009" – 230 µm finished
Minimum	Drilled size plus 0.006" – 0.15 mm	Internal starting Cu 3 oz – 105 µm	0.008" – 200 µm finished	External Cu finished thickness 4 oz – 140 µm	0.012" – 300 µm finished
Standard	Drilled size plus 0.008" – 0.2 mm	Internal starting Cu 4 oz – 140 µm	0.01" – 250 µm finished	External Cu finished thickness 5 oz – 175 µm	0.016" – 400 µm finished
<b>Surface finishings</b>		<b>Edge connector bevelling</b>		External Cu finished thickness 6 oz – 210 µm	0.020" – 500 µm finished
HASL (lead free and tin/lead)	Yes	Finger tip angle	Typical 45°, available 20 ~ 50°	<b>Scoring</b>	
Immersion silver	Yes	Bevel depth tolerance	± 0.004" – 0.1 mm	Angles	Standard 20° Available 20/30/45/60°
Immersion gold (thick or thin)	Yes			Offset tolerance	± 0.005" – 127 µm
OSP	Yes			Optimum remaining core thickness	1/3 of overall thickness
Immersion tin	Yes			Remaining core tolerance	± 0.006" – 150 µm
Full body gold	Yes			Position	± 0.004" – 100 µm
Gold fingers	Yes			<b>Profile / Routing</b>	
				Standard router bit diameter	0.031" – 0.8 mm / 0.039" – 1.0 mm / 0.055" – 1.4 mm / 0.063" – 1.6 mm
				Routed profile tolerance	Standard ± 0.006" – ± 0.15 mm, Special ± 0.004" – ± 0.10 mm
				Minimum internal rout radius	0.015" – 0.4 mm
				Minimum routed PTH slot width	0.031" – 0.8 mm

Plated through hole		Non-plated through holes	
Smallest plated through hole size with 0.0008" (20 μm) average copper requirement		Smallest non plated hole size (finished)	0.01" – 0.25 mm finished hole
Finished panel thickness 0.01" – 0.25 mm	0.003" – 0.075 mm finished hole	Targets non plated hole size (routed)	No limit
Finished panel thickness ≤ 0.04" – 1.0 mm	0.004" – 0.10 mm finished hole		
Finished panel thickness ≤ 0.09" – 2.3 mm	0.008" – 0.20 mm finished hole		
Finished panel thickness ≤ 0.125" – 3.2 mm	0.01" – 0.25 mm finished hole		
Finished panel thickness ≤ 0.25" – 6.3 mm	0.032" – 0.80 mm finished hole		
Plated hole size tolerance	Standard ± 0.003" (± 0.075 mm), special ± 0.002" (± 0.05 mm)		
Plated hole size 'press-fit' applications	Advanced: ± 0.002" (± 0.05 mm)		
Aspect ratio (with 0.01" -0.25 mm- drill)	12:1		
Plated hole spacing minimum (drill hole to hole)	0.012" – 0.30 mm		
Laser microvia (μVia)			
Smallest laser via (as ablated)	0.003" – 0.075 mm (75 μm)		
Largest laser via (as ablated)	0.008" – 0.20 mm		
Via aspect ratio	Standard 8:10		
Capture pad size	μVia + 0.006" (0.15 mm)		

