

	Standard	Advanced	Engineering	RoadMap
Internal Trace & Space	4/4 mils	3/3 mils	2.4/2.4 mils	Under 2.4 mils
External Trace & Space	5/5 mils	3.75/3.75 mils	2.8/2.8 mils	2.6/2.6 mils
Minimum Starting Foil	1/2 Oz	1/4 Oz (9 micron)	1/8 Oz (5 micron)	
Maximum Copper Thickness	2 Ounce	3 Ounce	4 Ounce	Over 4 Ounce
Minimum Dielectric for Rigid	5 mils	3 mils	2 mils	1 mil (film)
Maximum Plating Aspect Ratio	6:1	8:1	10:1	12:1
Minimum Starting Drill	8 mils	6 mils	4 mils	3 mils (Laser)
Maximum Thickness	0.125	0.125	0.125	
Via in Pad	Yes	Yes	Yes	
Blind Via	Yes	Yes	Yes	
Blind Via Formation	Drill, Segment Lam	Laser Ablate .004	Laser Ablate .002	
Blind and Buried Types	N/A	1/N/1 Type 1 & 2	Type 3 Stacked	
Stacked Via Structures 2/N/2	N/A	N/A	Yes	
Controlled Impedance Tolerance	+ / - 10%	+ / - 10%	+ / - 10%	
Surface Finishes	HASL, ENIG, ENEPIG	HASL, ENIG, ENEPIG	HASL, ENIG, ENEPIG	
Selective Plating	N/A	Soft, Hard Gold	Soft, Hard Gold	
Soldermask Dams	4 mils	3 mils	3 mils	
Drill Positioning (Hole/Feature)	+ / - 3 mils	+ / - 2 mils	+ / - 1 mils	
Fabrication Tolerances	+ / - 5 mils	+ / - 3 mils	+ / - 2 mils	
Ground Clearances	Drill + 20 mils	Drill + 15 mils	Drill + 13 mils	Drill + 12 mils

Annular Ring Calculations				
	Starting Foil	Standard	Advanced	Engineering
Class 3	1/2 Oz	Drilled + .013	Drilled + .012	Drilled + .011
	1 Oz	Drilled + .014	Drilled + .013	Drilled + .012
	2 Oz	Drilled + .015	Drilled + .014	Drilled + .013
Class 2	1/2 Oz	Drilled + .010	Drilled + .009	Drilled + .008
	1 Oz	Drilled + .011	Drilled + .010	Drilled + .009
	2 Oz	Drilled + .012	Drilled + .011	Drilled + .010
Class 1	1/2 Oz	Drilled + .010	Drilled + .007	Drilled + .006
	1 Oz	Drilled + .011	Drilled + .008	Drilled + .007
	2 Oz	Drilled + .012	Drilled + .009	Drilled + .008
Note: Drilled size is .005 over the finished size for .001 plating in the hole, and .007 over finished for .0015 plating in the hole.				

Wrap Plating Conductor Calculations			
	Class 2	Class 3	Class 2
	Wrap X 1	Wrap X 1	Wrap X 2
1/8 oz	.0032/.0032	.0036/.0036	.0039/.0039
1/4 oz	.0035/.0035	.0039/.0039	.0042/.0042
1/2 oz	.0041/.0041	.0045/.0045	.0048/.0048
1 oz	.0054/.0054	.0058/.0058	.0062/.0062
2 oz	.0079/.0079	.0083/.0083	.0087/.0087
Class 2 Wrap Plating is .00036 Thick to allow for Planerization.			
Class 3 Wrap Plating is .0006 Thick to allow for Planerization.			