

	Standard	Advanced	Engineering	RoadMap	Projected Date
Internal Trace & Space	4/4 mils	3/3 mils	2.4/2.4 mils	Under 2.4 mils	2015
External Trace & Space	5/5 mils	3.75/3.75 mils	2.8/2.8 mils	2.6/2.6 mils	2015
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	2015
Minimum Dielectric for Rigid	5 mils	3 mils	2 mils	1 mil (film)	2015
Maximum Plating Aspect Ratio	6:1	8:1	10:1	12:1	2015
Minimum Starting Drill	8 mils	6 mils	4 mils	3 mils (Laser)	2015
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	2015

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.			