Pre-engineering

Pattern imaging

Etching

Laminating

Drilling

http://www.standardpcb.com
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Desmear

Cu plating

Hole plugging

Belt Sanding

Cu plating

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Pattern imaging

Lamination

Laser Ablation

Mechanical drilling

Cu plating

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Pattern imaging

Solder Mask

Gold plating

Routing

Electrical test
Visual inspection

Hole counter

Shipping

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* Raw material (Thin Core, Copper, Prepreg……)

- **Raw Material**: FR-4 (Difunntional, Tetrafuntional)
- **Supplier**: EMC, Nan-Ya
- **Sheet size**: 36”*48”, 40”*48”, 42”*48
- **Core Thickness**: 0.003”, 0.004”, 0.005”, 0.006”
  - 0.008”, 0.010”, 0.012”, 0.015”
  - 0.021”, 0.031”, 0.039”, 0.047”
- **Copper Foil**: 1/3 oz, 1/2 oz, 1.0 oz, 2 oz
- **Prepreg type**: 1080, 2113, 2116, 1506, 7628, 7630

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1. Innerlayer (THIN CORE)

Laminate
Copper Foil

(Panel Size)

COPPER FOIL
Epoxy Glass

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2. Dry Film Resist Coat

Etch Photoresist (D/F)

Photo Resist

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3. Inner Artwork Expose

Before Expose

After Expose

Dry film

Photo Resist

Artwork
4. Inner layer image Develop

![Diagram of inner layer image development with Photo Resist highlighted]
5. Inner Layer Etch
6. Inner Layer Strip Resist
7. Oxide Coating
8. Lay-up Building
9. Lamination
Typical of the multilayer structure of stacked plates and laminated.

The hot plate press machine
Superimposed with the steel

**COPPER FOIL 0.5 OZ**
Thin Core, FR-4 prepreg

**COPPER FOIL 0.5 OZ**
Thin Core, FR-4 prepreg

Superimposed with the steel

10-12層疊合

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10. NC Drilling
11. Desmear & Copper Deposition
12. Hole Plugging

13. Belt Sanding
14. Copper Reduction → Option

15. Belt Sanding → Option
16. Dry Film Lamination (Outer layer)
17. Outerlayer Expose

UV

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18. After Exposed
19. Outerlayer Develop
20. Etch
20. Strip Resist
21. Build-up Layer Lamination

RCC Resin Coated Copper foil
22. Conformal Mask

Before Exposure

After Exposure

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23. Conformal Mask

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24. Conformal Mask (for Etching)
25. Conformal Mask
26. Laser Ablation and NC Drilling
27. Mechanical Drill
28. Desmear & Copper Deposition
29. Outerlayer Pattern imaging

Dry Film Lamination
Outerlayer Exposure

Dry Film Developing

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Etching

Dry Film Stripping

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30. Solder Mask Process
31. S/M Developing

32. Legend Printing

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33. Electroless Ni/Au, HAL_lead free and Etc.
34. Outline Profile and Electrical Testing
36. Final Inspection

37. O.S.P. (Entek plus Cu_106A….) → Option

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BURIED VIA AND LASER BLIND VIA OPTION

A = THROUGH VIA HOLE
B = BURIED VIA HOLE
C = One Level Laser Blind Via
D = Two Level Laser Blind Via

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BLIND AND BURIED VIA OPTION

A = THROUGH VIA HOLE
B = BURIED VIA HOLE
C = BLIND VIA HOLE
D = BLIND HOLE MLB VIA

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Conventional PCB

FR-4

Build-up Layer

Photo-via

Conventional PTH

Conventional PCB

Build-up Layer

FR-4

Build-up Layer

Photo-Imageable Dielectric (PID)

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End