日本語は4ページ目です。

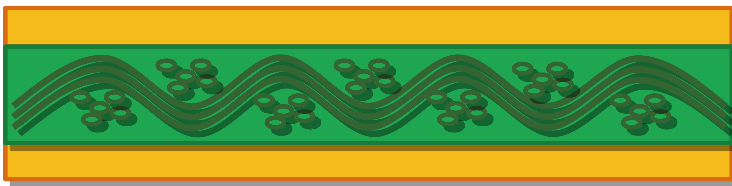
Producing Method of Printed Circuit Board

Penetrated Board（2, 4, 10layer）

This is a layered structure that enables more wiring by adding more layers to the front and back of a two-layer board.
Since the holes are drilled, the risk of misalignment of vias is reduced, but the position and number of vias are limited due to the through-hole structure.

◆4 Layer Penetrated Board.

1. Prepare a copper clad laminate with Cu foil on both sides.

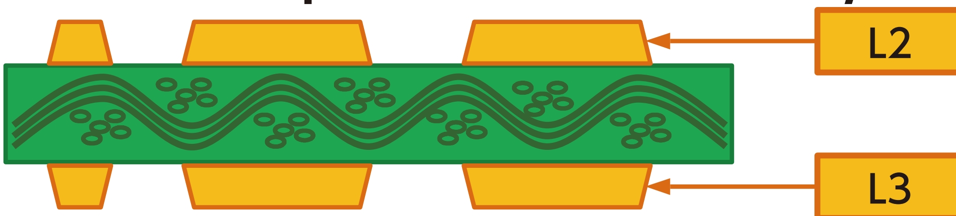


Cu Foil

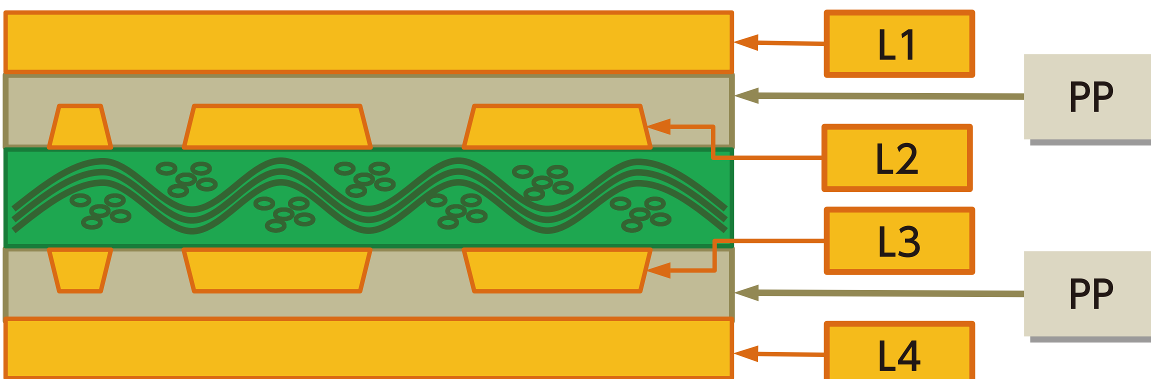
Core

PP

2. Form the pattern for the inner layer（L2-L3）.



3. Prepreg (PP) and Cu foil are laminated under high pressure and temperature.

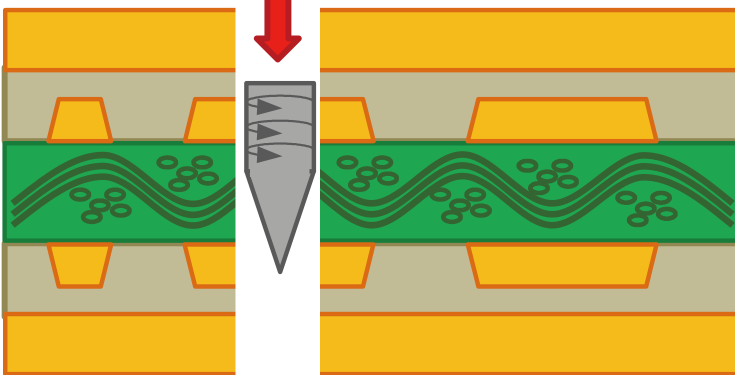


Producing Method of Printed Circuit Board

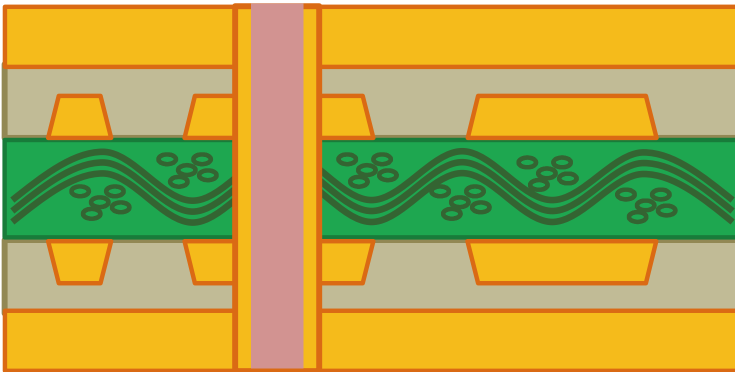
Penetrated Board (2, 4, 10layer)

Cu Foil | Core | PP

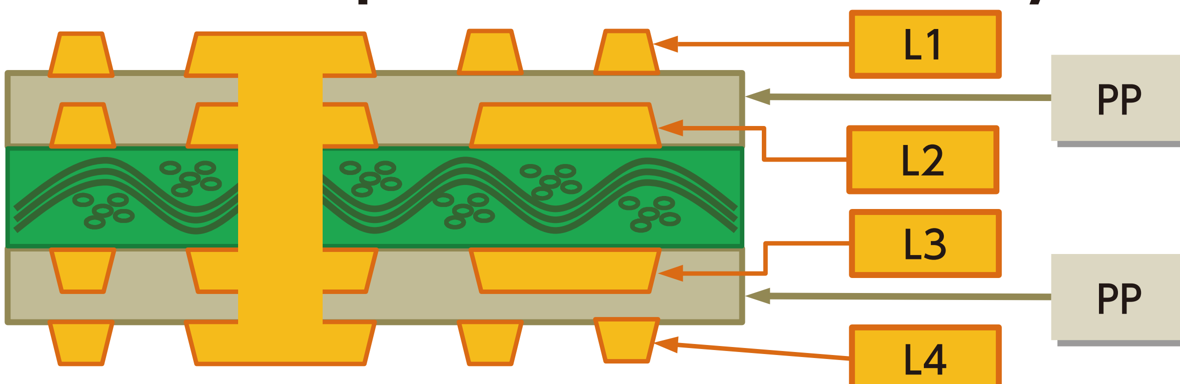
4. Via is formed by drilling.



5. Plating of the inner wall and filling of the hole to make the via conductive.



6. Form the pattern for the outer layers (L1 & L4).

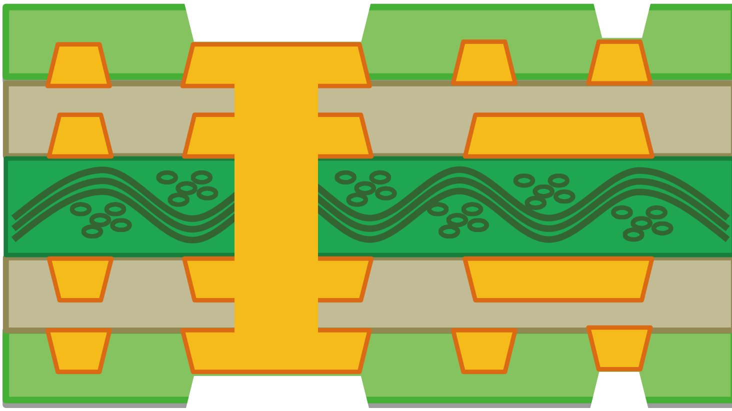


Producing Method of Printed Circuit Board

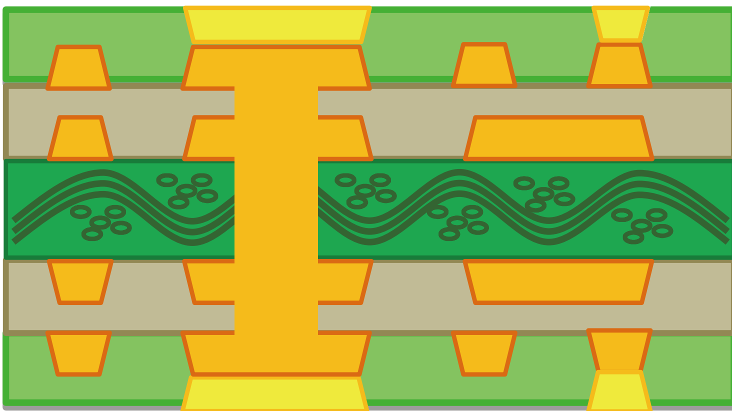
Penetrated Board（2, 4, 10layer）

Cu Foil | Core | SR | Au Plating

7. Forming SR.



8. Surface treatment: Au plating formed.



9. Outer Routing ~ Shipping is almost same as the penetrated board.

In order to check for abnormalities in patterns and connections in the inner layers, it is necessary to use **electrical testers (Open / Short testers)** to check for electrical continuity since visual inspection is not possible.

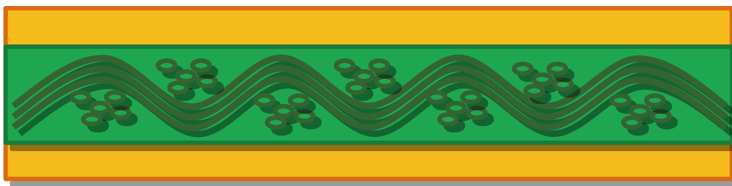
基板のつくりかた

貫通基板（4層、6層、10層～）

2層基板の表裏にさらに層を重ね、より多くの配線を可能にする層構成です。ドリルにて穴をあける為ビアの位置ズレなどのリスクは減りますが、貫通の為ビアの位置や個数は制限されます。

◆4層貫通板の場合

1. 両面に銅箔が張られた銅張積層板を用意。

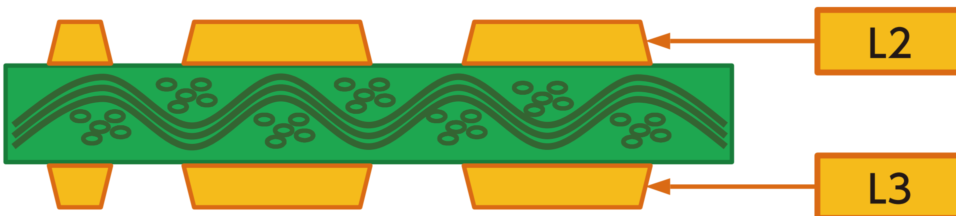


銅箔

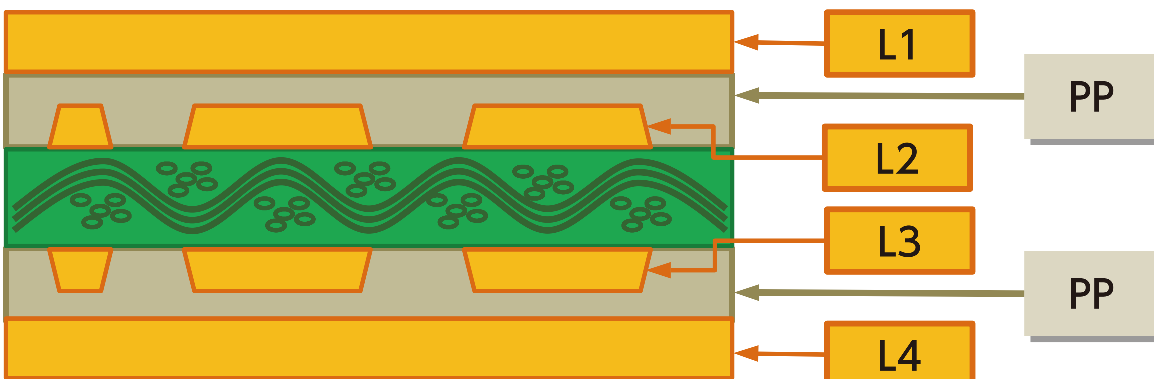
コア材

PP

2. 内層（L2-L3）のパターンを形成。



3. プリプレグ（PP）と銅箔を高圧と高温にて積層。

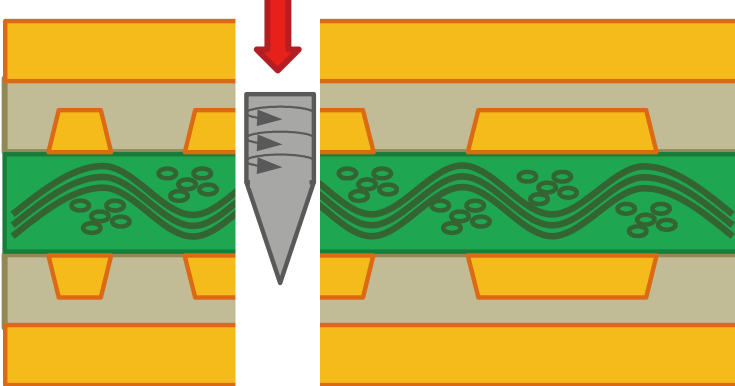


基板のつくりかた

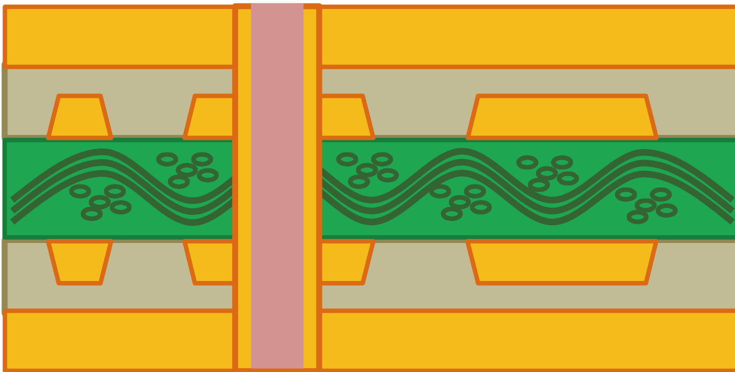
貫通基板（4層、6層、10層～）

銅箔　コア材　PP

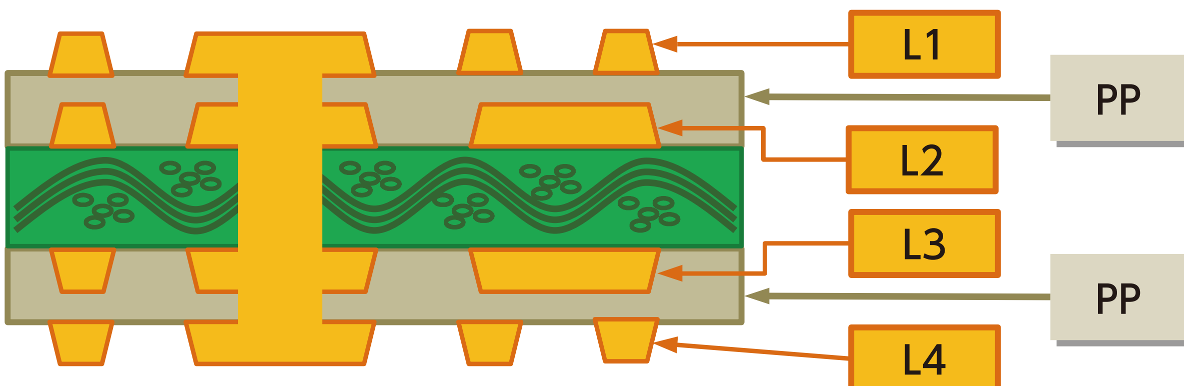
4. ドリルにてビアを形成。



5. 内壁のめっき、穴埋めなどでビアの導通を取る。



6. 外層（L1&L4）のパターンを形成。

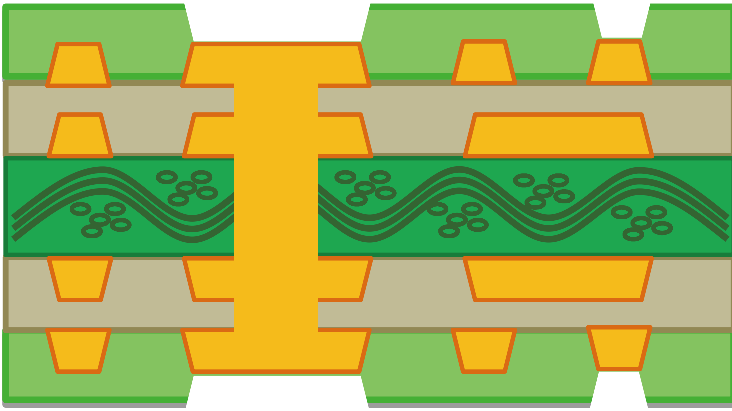


基板のつくりかた

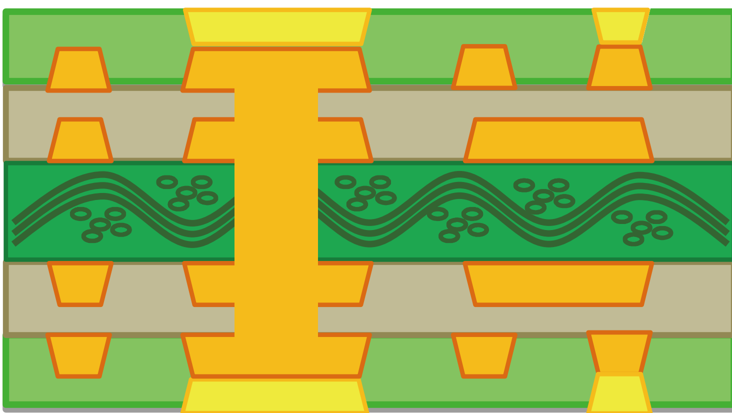
貫通基板（4層、6層、10層〜）

銅箔　コア材　SR　金めっき

7. SRを形成。



8. 表面処理：金めっきを形成。



9. 外形、後工程〜出荷は両面板とほぼ同様。

内層のパターンや接続に異常がないか検査するためには、目視検査では確認が不可能であるため、電気の導通にて検査を行う**電気テスター(Open/Short テスター)**の適用が必要です。