INSULECTRO

EMD PERFORMANCE MATERIALS

ORMET® SINTERING PASTE

QUICK START GUIDE
HDI PCB FABRICATION

PASTE DON'T PLATE

4 Process Steps

STORAGE

The paste must be stored in a freezer below 10° C.

REQUIRED MATERIALS

Ormet® Sintering Paste

REQUIRED EQUIPMENT

Small Freezer

Step 1

TACKING OPERATION

Prepreg b-stage adhesive is tacked to the core layer. A Mylar/PET cover sheet is used as a stencil

REQUIRED MATERIALS

- 0.001" Mylar/PET Film
- B-Staged Adhesive Film (low-flow preferred)
- Core Layer(s)

REQUIRED EQUIPMENT

Vacuum Laminator (Dynachem 724 or equiv.) or
Vacuum Lamination Press

In principle, the concept is simple, make z-axis electrical connections at the same time you laminate. This can be done through Ormet's unique transient liquid phase sintering.

This allows you to melt a metal at a one time low temperature. Then it forms a new alloy with a much higher melting point. Another benefit is that the paste incorporates some of the PCB core material copper foil into the alloy.

This connection has no electroless copper, tin/palladium or some other interface in the way.

Interest in Ormet® continues to climb. Get to know Ormet® and see what it can do for HDI, high aspect ratios, RF applications, embedded components and more.

Step 2

LASER DRILLING OPERATION

Laser is used to remove B Stage material where via locations are desired.

REQUIRED MATERIALS

- Tacked Assemblies from Step #1.
- Tooling Jig (Optional)

REQUIRED EQUIPMENT

UV/CO_2 Laser (Preferred) or
CO_2 or UV Laser (Optional)

Step 3

A. VIA FILLING OPERATION

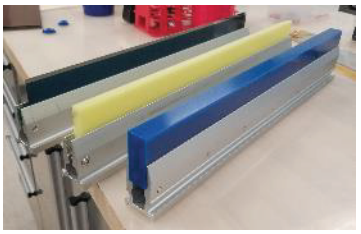
A manual or automatic screen printer can be used to fill vias.

REQUIRED MATERIALS

- Drilled Assemblies from Step #2.
- Ormet® PCB-710

REQUIRED EQUIPMENT

Screen printer (ATMA AT-EW80P or equiv.)



B. VIA FILLING OPERATION (cont'd)

Squeegees for filling

REQUIRED MATERIALS

- Drilled Assemblies from Step #2.
- Ormet® PCB-710

REQUIRED EQUIPMENT

Rubber Squeegee
(70 Durometer, 20MM wide), plus
Stainless Steel Squeegee
(Transition Automation)

C. VIA FILLING OPERATION (cont'd)

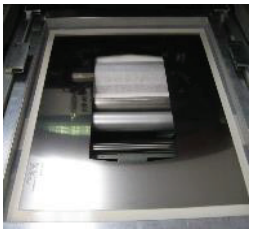
Stainless boarder stencil to collect paste and optimize consumption

REQUIRED MATERIALS

- Drilled Assemblies from Step #2.
- Ormet® PCB-710

REQUIRED EQUIPMENT

Stainless steel stencil
(Transition Automation)



"Think of the time you'll save laminating less."

Step 4

A. TACK DRYING OPERATION

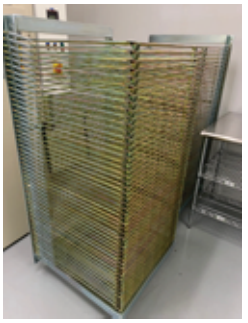
Drying Racks. Horizontal racks that can hold thin and thick cores for tack baking.

REQUIRED MATERIALS

Filled Assemblies from Step #3

REQUIRED EQUIPMENT

Drying Rack



B. TACK DRYING OPERATION (cont'd)

Drying oven for solvent removal

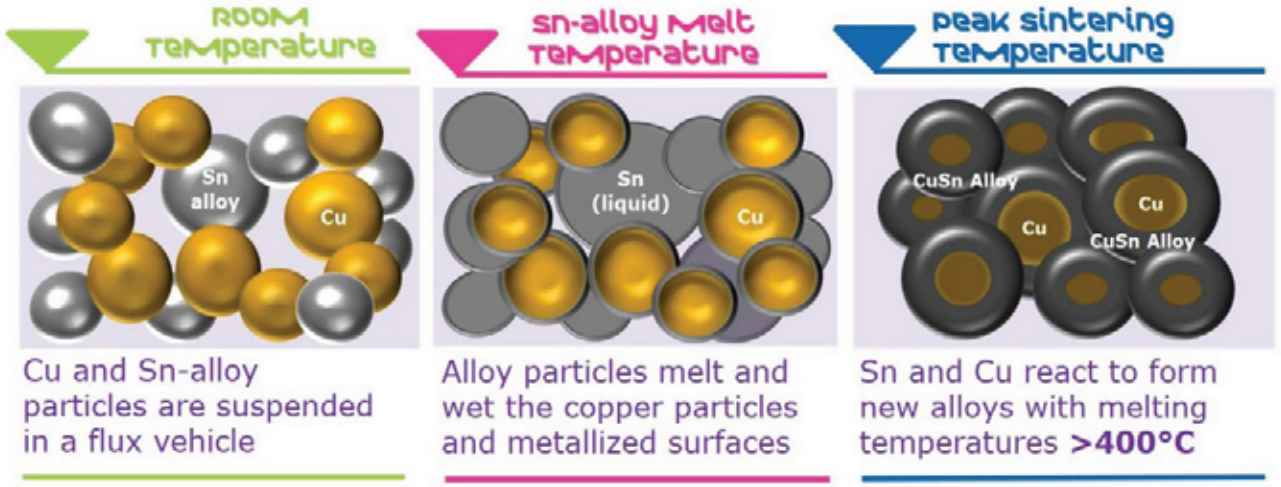
REQUIRED MATERIALS

Filled Assemblies from Step #3

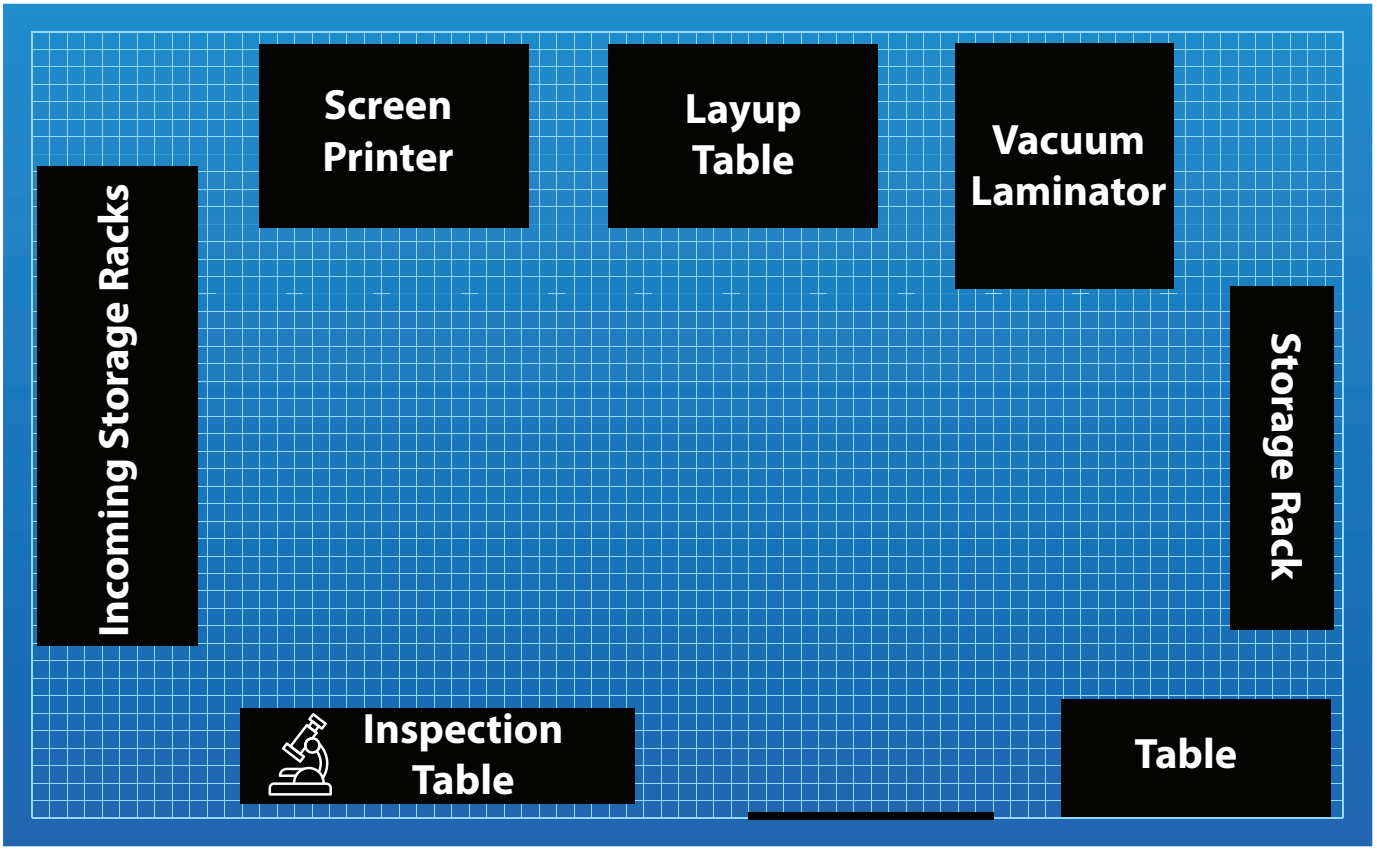
REQUIRED EQUIPMENT

Box oven

The Transient Liquid Phase Sintering (TLPS) Process



Process Room Layout



FOR MORE INFORMATION, contact:

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