



InduBond® 130N
Inductive Bonding Machine

NEW

**High Technology InduBond®
Pin Registration Machine**

- Inductive bonding points to maintain the registration.
- High-precision registration with mechanical pins.
- Elastic bonding points that withstand the movements of the inner layers during the hot press cycle.
- It assures the linear movements of the multilayer stack caused by thermal dilatations.
- It eliminates the internal tensions of the multilayers stack thereby reducing the warping effects.
- Constant and precise thicknesses over the entire surface area. The flat bonding points allow maximum and uniform pressure during the pressing cycle.
- Guarantee press plates Long Life, the flat inductive bonding points avoid damages on the press plates.

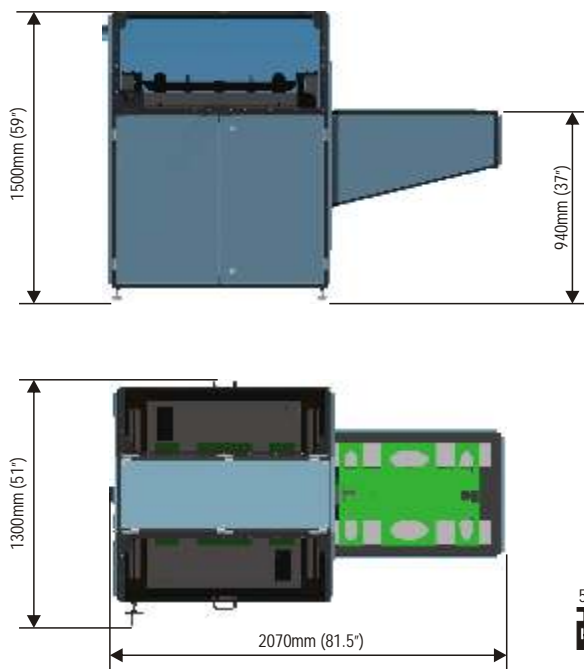
General Description

InduBond 130N is the new generation of the inductive bonding machines (InduBond®) from Chemplate for bonding the stack of inner layers and prepreg (insulating layers) of a multilayer printed circuit. This allows repeatedly, safely and reliably obtaining high registration precision between the inner layers (< 10 microns) before pressing in any type of hot press.

The multilayer stack, previously mounted on a template with high-precision mechanical pins, is bonded by InduBond® technology using 4 bonding heads (optionally, 6 bonding heads), which uniformly press and heat the bonding zones in all the inner layers until the prepreg resin is fused, thereby guaranteeing the bonding of multilayer stacks of up to 10-mm thick.

The resulting bonding points are elastic and flat, without over-thickness. They are capable of withstanding the dilations and contractions of the hot-press cycles, thereby providing maximum assurance of the linear movement of all layers in a multilayer stack, reducing the internal tensions that cause warping and deformations and moreover reducing the distortions and misalignments between inner layers.

Dimensional Data



Technical Data

- Weight: 570Kg. (1256 lb)
- Max. Inner Layer Size: L.750 x W.650mm (30x25")
- Min. Inner Layer Size: L.250 x W.250mm (10x10")
- Max. Bonding Thickness: Up to 10mm
- Installed Power: 3Kw (400 Volt - 3ph+N+G - 50Hz)
- Air Pressure: 6 bar (90 psi)
- Suction Hole: 80mm diameter (3,15")
- Suction Flow: Min. 80 l/s

Technical Requirements

- A high - precision template with mechanical pins is used for the lay-up and registration, therefore the inner layers must first be prepared with the corresponding registration holes (see Figure 1). These holes are generally drilled or punched after the layers are etched.
- The prepreg insulating layers must also have holes for the pins. These holes do not have to be precise, and they can even be 1 or 2 mm larger than those of the inner layers.
- The inner layers must have heating circuits etched in the reserve zones on both sides. The optimum design of the same is supplied with the machine (see Figure 2).

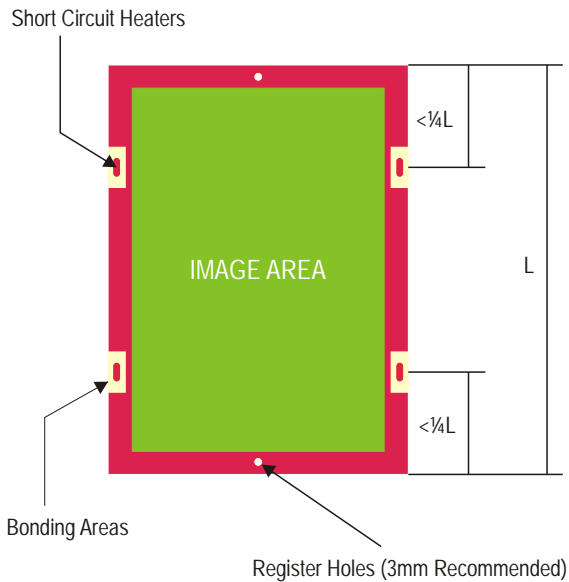


Fig.1

Procedure Description

1. Place the internal layer #1 on the pins over the template.
2. Put on the prepregs sheets required for the assembly.
3. Repeat step 1 and 2 until the multilayer stack is completed by putting on the last inner layer.
4. Once the stack is complete, the operator must confirm the assembly by stepping on the foot switch.
5. The machine automatically positions the template with the multilayer stack in the bonding zone.
6. The machine closes the pneumatic press to keep the stack firmly joined and to ensure the correct lay-up alignment of all inner layers.
7. The Inductive Magnetic Heads of the InduBond close, and the bonding cycle starts.
8. Once the Bonding cycle has ended, the machine sends the template with the multilayer assembly to the initial position to be manually removed.
9. Repeat the process

(The typical bonding time for an 8 layer stack is approximately 30-45 Sec.)

Alignment Accuracy

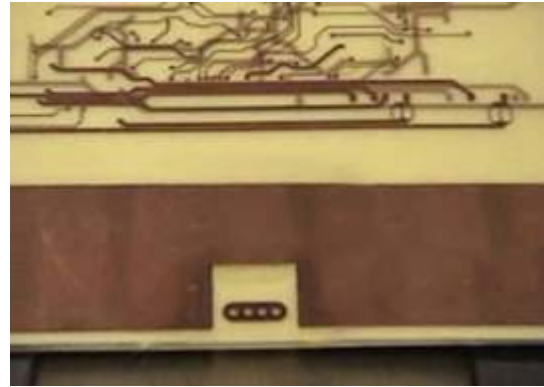
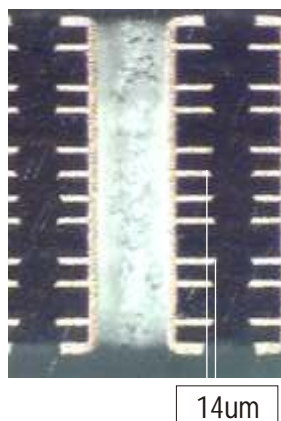


Fig.2

Standard Composition

The standard composition includes:

- Inductive Bonding Machine (InduBond 130)
- 4 Inductive Bonding Heads and controls.
- Dedicated template (according customer requirements).
- Instructions book.
- Technical data to prepare the inner layers.
- Installation and training.
- Technical support.

Optionals

Some options are available:

- 2 Additional Inductive Bonding Heads and control.
(recommended for big multilayers, 610 - 762mm (24 - 30"))
- Pre-Assembly station with 2 register templates (Fig.3)
(This option allows to double the machine production with low cost)



Fig.3

