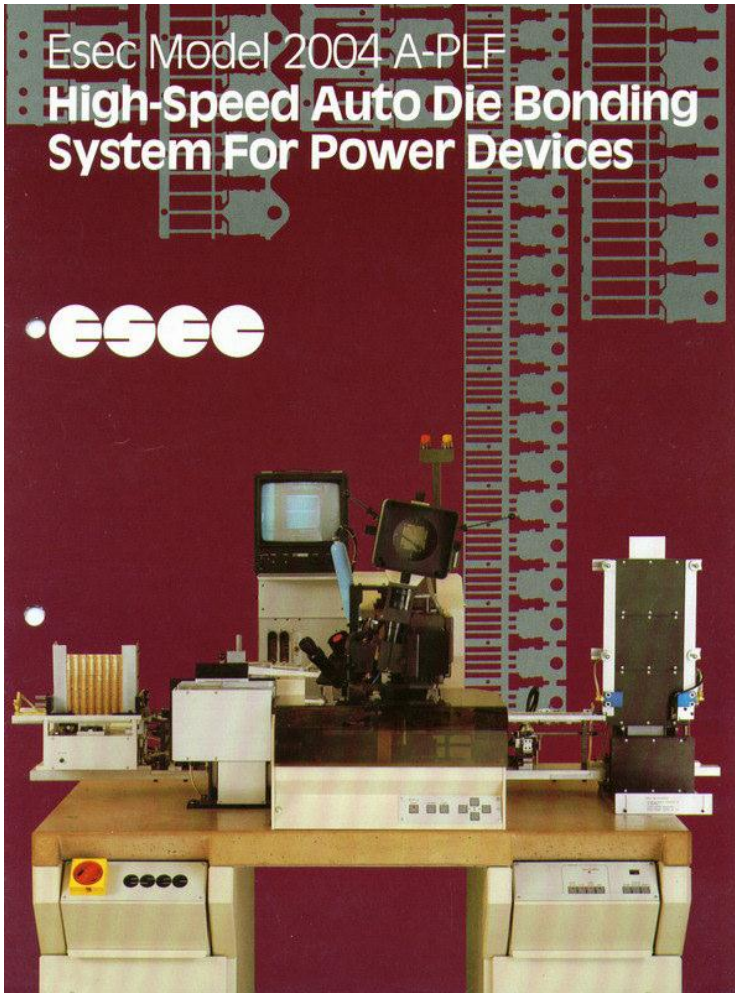
Esec Model 2004 A-PLF

High-Speed Auto Die Bonding System For Power Devices

esec



The Esec Model 2004 A-PLF High Speed Auto Die Bonding System For Power Devices

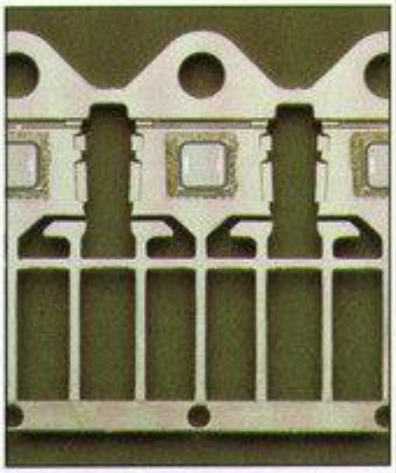
provides you with

- **full process capability** for **soft-solder die attach** on **silver-, nickelplated** or **bare copper power leadframes,** e.g. TO-220, TO-202, SOT-93, TOP-3, TO-247 etc.
- fully automatic operation with high machine autonomy for **highest productivity**
- smooth and accurate material handling and monitoring for **highest die attach yield**
- an ingenious furnace design, allowing an **optimized temperature profile** for each bonding technology
- the proverbial reliability of ESEC Die Bonders, to give you **maximum up-time**
- extensive **communications** and **diagnostic facilities**
- free access to magazines and wafer cassettes from top, for compatibility with future **factory automation**

Features

Die Bonding Technology

- any type of leadframes, chips and preforms for power devices can be handled, e.g.
  - soft-solder (alloy) bonding with different preforms, such as Sn/Ag/Sb, Pb/Sn, Pb/Ag/In, Pb/Ag/Sn etc. on nickelplated or bare (cleaned) copper leadframes
  - soft-solder bonding (Au/Sn) without preform on nickelplated leadframes
  - eutectic (Au/Si) bonding on goldplated leadframes



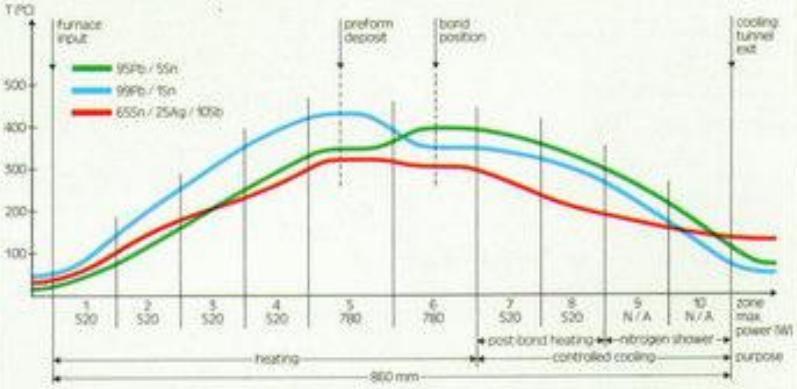
ESEC's A-PLF systems guarantee excellent die bonding quality

- the long and powerful furnace lets you achieve any temperature profile for successful bonding of power devices, regardless of the high throughput
- the hermetically designed furnace allows the use of forming gas with low percentage of hydrogen – for your economy and safety
- controlled cooling is obtained by two methods:
  - two post-bond heating zones, assuring low cool-off gradients in the critical temperature range after bonding
  - nitrogen shower and/or water-cooling for further cooling in the uncritical temperature range

Adaptable Power Leadframe (A-PLF) Indexer

- factory adaptable for any power leadframe type, like TO-220, TO-202, SOT-93, TOP-3, TO-247 etc.
- 8 individually adjustable heating zones
- long, covered furnace results in a close match of the dynamic and static temperature profiles, thus avoiding the risk of overheating the devices
- walking beam indexing system with precision centering assures leadframe alignment better than +/–25 µm (1mil) in X and Y and +/–0,1 degree in theta
- downpress fingers ensure accurate dynamic temperature profile
- tungsten-chromium coated furnace track assures long lifetime
- fully programmable, microprocessor based temperature controllers with self-diagnostic facilities
- digital temperature settings and displays
- power adjustment with solid state relays using zero point crossing pulse-package switching

The A-PLF indexing system permits a wide range of temperature profiles to optimize different processes at high throughput rates.



Shown are typical dynamic temperature profiles for some of the most common soft-solder alloys.