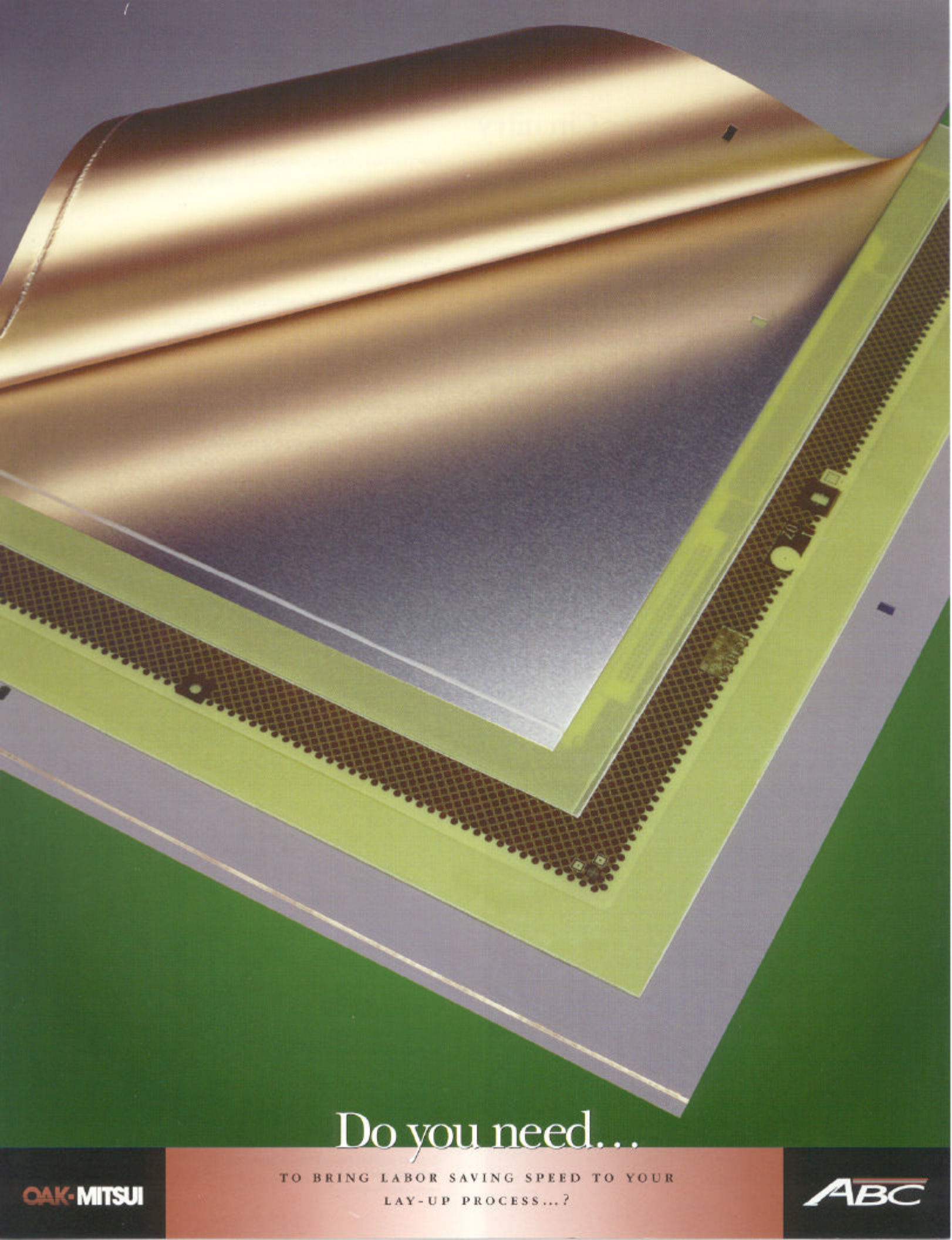


Do you need...

TO BRING LABOR SAVING SPEED TO YOUR LAY-UP PROCESS...?

OAK-MITSUI

ABC

About Better Circuitry

Aluminum Bonded Copper or "ABC" represents a quality alternative to copper/aluminum lamination separator plates. Continuous Process Ultrasonic Welding performed in a clean room environment is the basis surrounding ABC's product technology. Critical metal surfaces are cleaned then bonded without the use of any adhesive that could further interfere with the subsequent outer layer processing of the multilayer. In short, use of ABC instead of the conventional component lay-up / wiping technique ensures a process-ready fine-line circuit board surface.

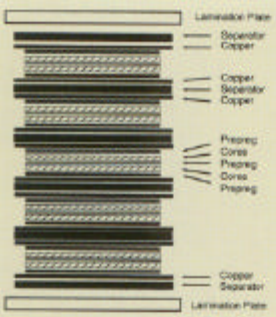
Given the long-term relationship EIS has enjoyed with Oak Mitsui, this new partnership is a natural extension of two major players in the PCB marketplace. Exciting new copper foil technology such as OLS (reverse treated outer layer foil), 12 micron and "AT" treatments coupled with specifically selected aluminum alloys available in .010", .012" and .015" thickness result in product configurations that are now becoming industry standard. Take two focused companies on their individual products (Copper/Aluminum) and meld those technologies—the result in this case is ABC.

The benefits include:

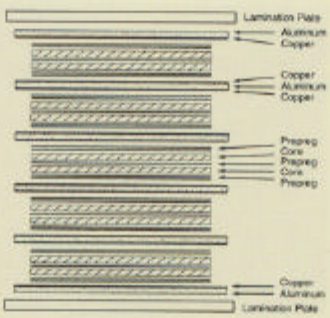
- *Labor reductions/time savings in lay-up of 30%-60%.*
- *Less material handling/fewer PNs / fewer handling defects/reduced scrap.*
- *Higher first pass yields, especially on fine-line circuitry.*
- *Technological Support from the industries' leaders in Copper Foil/ Aluminum Press separator plate technology*
- *ABC provides the vehicle for ultrathin copper foil handling.*

With industry demand continuing to escalate for Aluminum Bonded Copper, added production capacity/ flexibility of supply is rapidly taking shape. Multiple process lines, enhanced welding technology, expanded tooling capabilities and improved distribution channels are directly targeted at reduced lead times/immediate product availability. Remember it's all "About Better Circuitry."

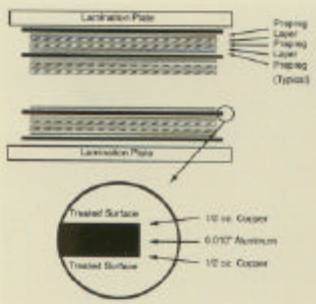
CONVENTIONAL MULTILAYER LAYUP



ABC LAYUP



ABC BOOK



Normal Layup Configuration

- **31 individual components must be placed onto pins. (10 Board Book)**
- **To maintain excellent surface integrity 41 individual surfaces must be tack wiped clean. 20 copper and 21 aluminum**
- **Copper weights 1/2 oz. and less are difficult or near impossible to handle**
- **Significant potential for copper and aluminum scrap due to operator handling problems at lay-up.**
- **Copper foil exposed to potential contamination in lay-up area.**
- **Potential for epoxy dust accumulation is significant, jeopardizing first pass yield percentage.**

ABC Layup Configuration

- **ABC requires only 11 components. (10 Board Book)**
- **ABC requires no wiping, reducing lay-up labor by 30-60%, and reducing the need for tack cloth.**
- **ABC can be built with copper down to 1/4 oz. (9 microns).**
- **No loss of copper foil due to handling-related problems. No wrinkling associated with handling. Copper and aluminum handled in one easy unit.**
- **Risk of critical surface contamination virtually eliminated with ABC.**

OAK-MITSUI

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