

GE's LEXAN* Resin Delivers Improved Productivity To New Entegris Carrier Tapes

The IC industry is passionate about productivity, where high-speed printed circuit board (PCB) assembly lines pick and place components in less than a second with placement accuracies at levels above 99.99 percent. This extremely competitive high-tech sector is unforgiving of any loss in efficiency, and hungry for any competitive edge in total output that it can achieve. So when Entegris, a leading materials integrity management company, developed its new 8- to 12-mm carrier tape product line, it opted to use GE's high-performance LEXAN* polycarbonate (PC) resin rather than conventional polystyrene materials.

In order to provide top performance for the most demanding ultra high-speed surface-mount device handling and placement operations, Entegris chose compounds made with LEXAN resin to help deliver improved component protection, reduced particulate contamination and increased overall productivity. The result was the development of two new 8- and 12-mm carrier tapes sold and marketed under Entegris's Stream** family of carrier tape products...

...Compared to polystyrene, the LEXAN resin-based compounds deliver better dimensional stability, enabling Entegris to thermoform carrier tapes with well-defined pockets, a key requirement for bare dies and other small components. The material's excellent mechanical strength contributes to faster component loading onto PCBs, an important benefit for passive and discrete applications. GE's LEXAN resin-based compound also offers enhanced stiffness at lower thermoforming temperatures, which helps carrier tape manufacturers like Entegris to process at faster rates, further increasing their productivity. Finally, LEXAN PC's superb ductility helps reduce particulate contamination when punching sprocket holes, improving the component integrity of integrated-chips.

Another significant factor in Entegris's selection was GE Advanced Materials' Carrier Tape Manufacturing Cell and the technical services that it provides to customers. GE is the only supplier in this sector that has two in-house carrier tape machines dedicated entirely to support new material developments to serve the carrier tape market. The cell is located close to GE Advanced Materials' global headquarters at its Polymer Processing Development Center (PPDC) in Pittsfield, Mass., and was instrumental in the development of the new tape product lines.

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** Stream is a trademark of Entegris.