

Application example:

auger dispensing automotive pressure sensor

Customer Requirements

Universal Instruments' challenge was to dispense materials required for a portion of a pressure sensor assembly process. The dispensed materials were to be used in attaching chip capacitors and sensor ICs. These materials were to be dispensed before the product went into a GSM® Platform for part placement onto the dispensed material.

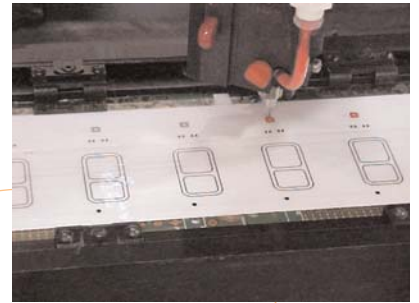
Universal Instruments' Solution

Universal Instruments integrated a Polaris Multi-Process Assembly Cell with two auger pumps to meet the requirements. This standard platform was also used in other steps of the pressure sensor manufacturing, including passivation/ potting, lid dispensing and attach, labeling, and final pack. One of the augers dispensed a conductive silver epoxy material (Dow Corning 6525 conductive silicone with 3 mil glass beads) for the chip capacitors. The other auger dispensed the adhesive/seal material (Dow Corning 3-1846 and Sifel epoxy) for the sensor IC attachment. After dispensing, each pattern was inspected with an advanced color inspection camera to verify a complete pattern.

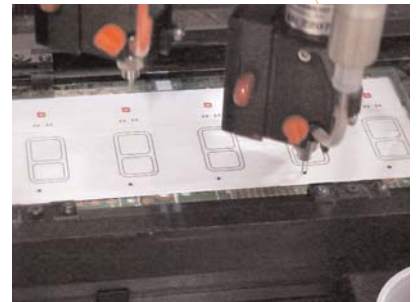
Of particular importance to the customer was that the dispensed volume fall within a 5% tolerance. The DL Technologies auger pumps were able to maintain tight volume control, had excellent wear characteristics, utilized a compliant dispense tip for product variation, and provided superb end-user value.

Technology Utilized

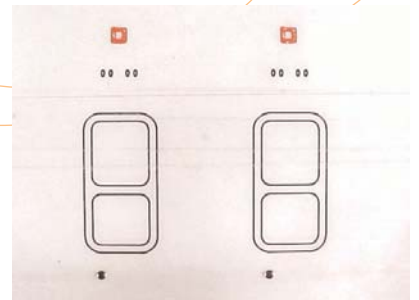
- Polaris Multi-Process Assembly Cell with Network Kit
- Auger Pumps with Cartridge Feed
- Color Inspection System
- Downward Looking Camera for vision guidance
- 22" PCB Conveyor with Bar Code Scanner



Adhesive/seal material for sensor IC attachment



Silver epoxy dispense for chip capacitor attachment



Generic product with dispensed material

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