Association Connecting Electronics Industries

# ADHESIVE APPLICATION FOR SURFACE MOUNT *(DVD-51C) v.1*

**This test consists of twenty multiple-choice questions. All questions are from the video: *Adhesive Application For Surface Mount (DVD-51C).***

**Each question has only one *most* correct answer. Circle the letter corresponding to your selection for each test item. If you wish to change an answer, erase your choice completely.**

**You should read through the questions and answer those you are sure of first. After your first pass through the test, then go back and answer the questions that you were not sure of. If two answers appear to be correct, pick the answer that seems to be the most correct response.**

**When you are finished, check to make sure you have answered all of the questions. Turn in the test materials to the instructor.**

**The passing grade for this test is 70% (14 correct answers or better).**

**Good luck!**

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# ANSWER SHEET

**Name: _____ Date: _____**

**Circle the letter corresponding to your answer for each test item.**

| | | | | |
|---|---|---|---|---|
| **1** | **A** | **B** | **C** | **D** |
| **2** | **A** | **B** | **C** | **D** |
| **3** | **A** | **B** | **C** | **D** |
| **4** | **A** | **B** | **C** | **D** |
| **5** | **A** | **B** | **C** | **D** |
| **6** | **A** | **B** | **C** | **D** |
| **7** | **A** | **B** | **C** | **D** |
| **8** | **A** | **B** | **C** | **D** |
| **9** | **A** | **B** | **C** | **D** |
| **10** | **A** | **B** | **C** | **D** |
| **11** | **A** | **B** | **C** | **D** |
| **12** | **A** | **B** | **C** | **D** |
| **13** | **A** | **B** | **C** | **D** |
| **14** | **A** | **B** | **C** | **D** |
| **15** | **A** | **B** | **C** | **D** |
| **16** | **A** | **B** | **C** | **D** |
| **17** | **A** | **B** | **C** | **D** |
| **18** | **A** | **B** | **C** | **D** |
| **19** | **A** | **B** | **C** | **D** |
| **20** | **A** | **B** | **C** | **D** |

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**1. The purpose of adhesive application is to**
a. create the mechanical and electrical connection for the component
b. keep surface mount components from falling off the board during wave soldering
c. eliminate the need for soldering
d. permanently attach component leads and terminations to lands

**2. The dots of adhesive are dispensed or printed**
a. between the lands
b. onto the lands
c. onto the corners of the lands
d. all of the above

**3. The last process step for double sided mixed technology assemblies is**
a. adhesive application
b. component placement
c. reflow soldering
d. wave soldering

**4. The most common method of applying adhesive is**
a. spraying
b. printing
c. dispensing
d. brushing

**5. The advantage of the piston pump is**
a. small and large dot volumes are dispensed in the same amount of time
b. it contains a vision system
c. the precise metering of the adhesive onto the board
d. all of the above

**6. The advantage of stencil printing vs. dispensing is**
a. dot accuracy
b. speed
c. cleaning ease
d. flexibility

**7. During printing, the shape and size of the glue dot is determined by the**
a. snap-off between the board and stencil
b. size of the stencil aperture
c. viscosity of the adhesive material
d. all of the above

**8. High green strength of the adhesive is important because it**
a. is more environmentally friendly
b. removes uncured adhesive from misprinted boards
c. reduces part skewing during component placement
d. has minimal volume variation from dot to dot

**9. When the purge button is pressed on adhesive dispensing systems**
a. the nozzles are automatically cleaned
b. the pump starts to operate and adhesive flows out the nozzles
c. the spindle locations display the type of adhesive that's required
d. all of the above

**10. Test dots are typically dispensed**
a. in between lands where chip components will be placed
b. on unused lands
c. on a section of the board that does not contain circuitry
d. in the exact center of the circuit board

**11. Fiducials are used to verify the**
a. proper position of the circuit board
b. amount of adhesive being dispensed
c. air pressure to the adhesive tube
d. shape of the adhesive dot

**12. The assembly drawing is used to verify that**
a. dots are correctly placed between the lands
b. dots are the correct size
c. there is no adhesive on the lands
d. all of the above

**13. If you smear the adhesive while inspecting a board**
a. completely clean the board and start the dispensing operation again
b. clean off any adhesive from the lands and send the board to component placement
c. use tweezers to gather the adhesive and reshape the glue dots
d. don't be concerned – the components will adhere to the smeared adhesive

**14. The most common defect in adhesive dispensing is**
a. missing dots
b. inconsistent dots
c. stringing or tailing dots
d. adhesive voids

**15. Plastic stencils**
a. are not as durable as metal stencils
b. have better gasketing than metal stencils
c. have only round apertures since the openings are drilled
d. all of the above

**16. The squeegees that are best suited for plastic stencils are made of**
a. stainless steel
b. polycarbonate
c. polyurethane
d. rubber

**17. Adhesives are typically spread on the stencils manually because**
a. automatic dispensing is a slower process
b. printable adhesives are thicker than solder paste
c. adhesive is less likely to dry out when spread manually
d. all of the above

**18. Voids that occur due to trapped air in the apertures can be fixed by**
a. larger snap off distance
b. higher down stop
c. faster squeegee speed
d. higher squeegee pressure

**19. Stringing and/or inconsistent dot height is caused by**
a. incorrect squeegee speed
b. incorrect squeegee pressure
c. clogged apertures
d. improper separation of board and stencil after the print stroke

**20. The first step after completing an adhesive printing job is to**
a. clean the adhesive from the squeegees
b. clean the stencil
c. remove and properly dispose of all unconsumed materials
d. check for frayed wires and worn belts