



## **SOLDER PASTE PRINTING DEFECT ANALYSIS AND PREVENTION (DVD-35C)**

**This test consists of twenty multiple-choice questions. All questions are from the video: *Solder Paste Printing Defect Analysis and Prevention (DVD-35C)*.**

**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!**



# SOLDER PASTE PRINTING DEFECT ANALYSIS AND PREVENTION (DVD-35C)

Name \_\_\_\_\_ Date \_\_\_\_\_

- 1. A squeegee is used to**
  - a. clean the surface of the stencil
  - b. align the circuit board
  - c. press solder paste through holes in the stencil onto the lands of the circuit board
  - d. all of the above
  
- 2. The correct volume of solder paste deposited onto a land is determined by the**
  - a. finish on the land
  - b. definition of a good solder joint
  - c. size of the squeegee
  - d. intuition of the operator
  
- 3. The relationship between the stencil thickness and aperture size is called the**
  - a. thickness quotient
  - b. stencil theorem
  - c. aperture development
  - d. aspect ratio
  
- 4. The surface mount process with the greatest number of variables is**
  - a. solder paste printing
  - b. adhesive application
  - c. component placement
  - d. reflow soldering
  
- 5. Solder paste printing process development based on trial and error can result in**
  - a. target process parameters
  - b. excellent yields
  - c. recurring defects
  - d. all of the above
  
- 6. A statistical process control program**
  - a. specifies experiments to control processes
  - b. warns the operator of “out of control” parameters before defective joints are produced
  - c. is used to scrap defective assemblies
  - d. is used to control operator behavior

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- 7. Clogged stencil apertures usually result in**
  - a. solder coverage problems
  - b. bridging problems
  - c. misalignment problems
  - d. dog ears
  
- 8. Bridging occurs when there is**
  - a. solder paste connecting one land to another
  - b. insufficient solder coverage
  - c. scooping
  - d. a clogged aperture
  
- 9. Bridging is typically caused by**
  - a. good contact between the stencil and circuit board
  - b. too little squeegee pressure
  - c. poor gasketing between the stencil and the circuit board
  - d. inadequate aperture size
  
- 10. Misalignment occurs when the**
  - a. vision system is operating the way it is supposed to
  - b. stencil apertures and circuit board lands are not in the same exact position
  - c. opposite polarity is present
  - d. fine pitch mode is enabled
  
- 11. If an alignment error is detected *and* the fine pitch mode is enabled, you should**
  - a. add more solder paste
  - b. add X, Y or Theta offsets, as required
  - c. increase squeegee speed
  - d. all of the above
  
- 12. When there is a dog ear with excess solder volume, it can be corrected by**
  - a. contact printing
  - b. kneading the solder paste
  - c. decreasing squeegee pressure
  - d. increasing squeegee pressure
  
- 13. When there is a dog ear with nominal solder volume, it can be corrected by**
  - a. increasing snap-off distance
  - b. increasing squeegee speed
  - c. increasing squeegee pressure
  - d. all of the above

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- 14. The pump shape has to do with**
- a. clogged apertures
  - b. insufficient solder volume
  - c. excessive solder volume
  - d. misalignment
- 15. If there is scooping or insufficient solder volume, you should try**
- a. decreasing squeegee pressure
  - b. increasing squeegee pressure
  - c. using a harder squeegee blade
  - d. all of the above
- 16. The slope shape has to do with**
- a. solder bridging
  - b. insufficient solder
  - c. misalignment
  - d. excessive solder
- 17. If there is a problem with edge definition in off-contact printing**
- a. increase snap-off incrementally
  - b. increase squeegee speed
  - c. increase squeegee pressure
  - d. check the alignment
- 18. If you need to change squeegee pressure, vary the pressure in increments of**
- a. 20%
  - b. 15%
  - c. 10%
  - d. 5%
- 19. If you need to change squeegee speed, raise or lower the speed in increments of**
- a. .1 inch per second
  - b. .2 inches per second
  - c. .3 inches per second
  - d. .4 inches per second
- 20. If you need to decrease snap-off, reduce it by**
- a. .010 of an inch
  - b. .020 of an inch
  - c. .030 of an inch
  - d. .040 of an inch