

Suggested Study Topics

Level II Liquid Penetrant - General Certification Examination

Note: This is not a complete list of the topics that may be covered on a certification examination. It should be used only as a guide to assist you in preparing to take a certification examination exam.

1. Describe the importance of following procedures and interpretation of indications
2. Describe the types of surface conditions that will affect a penetrant inspection
3. Describe terms: dwell time, indication, defect, discontinuities, viscosity, surface tension, wetting ability, sensitivity, capillary action
4. Identify the characteristic of the penetrant and developer
5. Describe the process of water-washable inspection steps
6. Provide examples of relevant, non-relevant and false indications
7. Describe how surface temperature affects the penetrant process (cold and/or hot)
8. Describe how dry or wet developers are applied to the part
9. Describe when and conditions that a part should be reprocessed
10. Describe a method to check for the overall performance of a penetrant system is conducted
11. Describe the best and worse ways of preparing the part prior to inspection (i.e. sandblasting, chemical cleaning, acid cleaning)
12. Describe the purpose of using a black light is used during the washing stage with water-washable fluorescent inspection
13. Describe how the black light is checked for its intensity
14. Describe the purpose and advantage of the emulsification process in comparison to red dye and water washable
15. Describe the proper method of removing excess penetrant for red-dye, water-washable and post emulsification process

Reference Sources:

- Nondestructive Evaluation and Quality Control Vol. 17
- Handbook of Nondestructive Evaluation – CJ Hellier McGraw-Hill
- ASTM 1316 – terms used in nondestructive testing
- http://www.ndt-ed.org/index_flash.htm NDE/NDT Resources
- www.asnt.org – American Society for Nondestructive Testing