



## Suggested Study Topics

### Level II Magnetic Particle Testing 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. General knowledge of magnetic particle testing (i.e. advantages, limitations, applications)
2. Terms used in magnetic particle testing (i.e. flux, Maxwell, gauss, flux density)
3. Theory of magnetic leakage fields (i.e. magnetic characteristic, poles, line of force, right angles maximum leakage field)
4. Types and characteristics of magnetizing currents (i.e. AC, DC, HWAC)
5. Terms used to describe materials (i.e. ferromagnetic, diamagnetic, paramagnetic, retentivity, residual, hysteresis graph / loop, permeability)
6. How to calculate circular and longitudinal magnetism
7. Types of indications (i.e. discontinuities, defects, relevant, non-relevant, false)
8. Types of ferromagnetic and diamagnetic materials
9. Importance of inspection procedures / codes / specifications
10. Differences of continuous and indirect testing techniques
11. Operations of prod, yoke and coils (i.e. good testing practices, calculation of amperage, lift test)
12. Characteristics of magnetic particles (i.e. dry and wet particles)
13. Determining concentration of the wet suspension particles
14. Operation of the head-shot, coil, and central conductor
15. Magnetic particle testing application (i.e. masking, conduction of material prior to testing)
16. Method of demagnetizing a material
17. Inherent, Primary, Secondary and In-service discontinuities

### Reference and Resources

- [www.asnt.org](http://www.asnt.org) – The American Society for Nondestructive Testing
- [http://www.ndt-ed.org/index\\_flash.htm](http://www.ndt-ed.org/index_flash.htm) - NDT Resource Center
- ANSI / ASNT CP-105 Standard Topical Outlines available at [www.asnt.org](http://www.asnt.org)