


## ndt definitions

Definitions 

- **Adhesive Forces**  
Adhesive forces occur between liquid molecules in contact with a solid surface.
- **Alternating Current (AC)**  
Electric current flows through a conductor in a back and forth direction at specific intervals.  
Note: It provides the best sensitivity for the detection of surface discontinuities only.
- **Capillary Action**  
Refers to the tendency of certain liquids to travel or climb into surface openings.
- **Cohesive Forces**  
Cohesive forces between molecules of a liquid cause surface tension.
- **Contact Angle (q)**  
Cohesive and adhesive forces jointly determine the contact angle q which in turn controls wetting ability.
- **Direct Current (DC)**  
Electric current flows through a conductor in only one direction at all times. Note: DC from a battery source has been phased out in favor of rectified forms of AC for surface and subsurface flaw detection.
- **Flux Density (B)**  
Magnetic field strength per unit volume within a ferromagnetic test part measured in gauss.
- **Flux Field Penetration**  
The ability to establish and drive high density magnetic lines of force deep into the test part.
- **Full-Wave Rectified (FWDC)**  
Electric current flows through a conductor in one direction only with an increased rate of pulsating surges and drops at specific intervals. Note: FWDC is recommended for effective surface and subsurface flaw detection when using the wet method of inspection.
- **Half-Wave Rectified (HWDC)**  
Electric current flows through a conductor in one direction only with pulsating surges and drops at specific intervals-hence the name half wave. Note: It is most effective for surface and subsurface flaw detection when using the dry powder method of inspection.
- **Linear Indication**  
Any indication having a length dimension at least 3-times greater than its width.
- **Liquid Penetrant Inspection**  
A nondestructive test method which provides for the detection of surface discontinuities in ferrous and nonferrous test materials.
- **Liquid Penetrants**  
Generally an oil base chemical solution of dye, either visible or fluorescent, capable of migration into surface openings by capillary action.
- **Liquid Viscosity**  
Determines the rate of flow into an opening.
- **Magnetic Domains**  
Ferrous material atoms or molecules normally illustrated as small bar magnets with north and south poles.
- **Magnetic Particle Inspection**  
A nondestructive test method which provides for the detection of linear, surface and near surface, discontinuities in ferromagnetic test materials.
- **Magnetism**  
A form of energy directly associated with electrical current, and characterized by fields or lines of force.
- **Magnetizing Force (H)**  
Magnetic field strength per unit volume in air, measured in oersteds.
- **Particle Mobility**  
The ability to establish activity or motion to the magnetic particles applied to the test part surface.
- **Permeability**  
The ease with which a material can be magnetized. The ability of a material to conduct magnetic lines of force.
- **Reluctance**  
The opposition of resistance by a material to conduct magnetic lines of force.
- **Retentivity**  
The ability of a material to retain magnetic lines of force following magnetization.
- **Right Hand Rule**  
Magnetic lines of force will always travel perpendicular or 90 degrees to the direction of electrical current flow.