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Visual testing
Penetrant testing
Magnetic particle testing
Radiograph interpretation
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Perryman Company is proud to Support the Pittsburgh Section of the ASNT

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A cost effective, common sense approach to your quality requirements.

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- Welder Certifications

With over 30 years of experience!

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Christmas
NDT Testing Capabilities
Nondestructive Testing (NDT) is a form of engineering evaluation that detects and interprets flaws in materials, while causing no harm to the materials or structure under examination. It is an exacting science, with highly developed testing techniques. Listed below are some of the commonly used NDT methods:

**Eddy Current** - This method uses circulating electrical currents induced in an electrically conductive test object by an alternating magnetic field. The current flow in the test specimen creates its own magnetic field. Interruptions or changes in current flow result in changes in this magnetic field, which are detected, displayed and interpreted.

**Liquid Penetrant** - Liquid Penetrant is a nondestructive means of locating surface discontinuities based on capillarity or capillary action. A penetrating liquid is applied to the surface of the test specimen, and is allowed to seep into any surface discontinuities. If the discontinuity is small or narrow, such as cracks or pinholes, capillarity assists the penetration. After sufficient time has passed for the penetrant to enter the discontinuity, the penetrant on the surface is cleaned off of the part. Capillary action is again employed to act as a blotter to draw penetrant from the discontinuity. To ensure visibility, the liquid penetrant contains either a colored dye easily seen in white light or a fluorescent dye visible under black ultraviolet light.

**Magnetic Particle** - Magnetic Particle testing consists of inducing a magnetic field into a ferromagnetic material (such as rolled, cast or forged steel). The application of magnetic particles and the interpretation of the pattern formed by the particles as they are attracted by magnetic leakage fields (magnetic poles) created at a break in material continuity, such as a surface crack. To ensure visibility, the magnetic particles are coated either with a colored dye easily seen in white light or a fluorescent dye visible under black ultraviolet light.

**Radiography** - Because of the penetration and absorption capabilities of X and gamma radiation, radiography is used to test a variety of products such as welds and castings for subsurface discontinuities. Radiographic testing usually requires the exposure of X-ray film to X or gamma rays that have penetrated a specimen, processing the exposed film, and interpreting the resultant radiograph. A radiograph is essentially a two-dimensional shadow image of a three-dimensional test specimen.

**Ultrasonic** - Ultrasonic is a versatile inspection technique used to test a variety of both metallic and nonmetallic products such as welds, forgings, plate, tubing, plastics and ceramics. Ultrasonic tests use high frequency sound waves introduced into the test specimen and, an evaluation of any returning echoes or loss of sound energy is used to determine material soundness. Ultrasonic tests are capable of economically revealing subsurface discontinuities in a variety of materials.

**Visual** - This is usually used to determine if there are any surface discontinuities, is the surface condition of the part adequate, are mating surfaces correctly aligned, is the part shape correct, or is there evidence of leaks.
PITTSBURGH - BEST PLACE TO RETIRE

Pittsburgh has recently been voted the best place to retire. It is also the best place to work. The front cover displays areas around the city to enjoy recreational activities.

**Back Cover - Schenley Park**
Throughout the summer, people relax and enjoy a great day in Schenley Park.

**Pittsburgh Grand Prix**
Also, held in Schenley Park the second week in July, the Pittsburgh Vintage Grand Prix brings car lovers out every year.

**Kayaking on Three Rivers**
Weather permitting Pittsburgh’s Three Rivers is a great place for boating of any kind.

**Three Rivers Arts Festival**
The first week of June, many people flock to Downtown Pittsburgh to enjoy.

**Pittsburgh Marathon**
The first Sunday in May, runners from around the world flock to Pittsburgh for the opportunity to run through the cultural neighborhood.

**Pittsburgh Riverwalk and Bike Pittsburgh**
What better place to relax, walk, run or enjoy a group bike trip.