Advanced Technology Group s.r.o.

ATG

ENG

- PRODUCTION FOR NDT
- TRAINING COURSES FOR TECHNICAL PERSONNEL
- QUALIFICATION AND CERTIFICATION
- OUTSIDE AGENCY / LEVEL III SERVICES
- NDT INSPECTIONS
- TECHNICAL / INDEPENDENT INSPECTIONS

INFO

RT | UT | MT | PT | VT | ET | LT | IRT

Advanced Technology Group s.r.o.

CONTENT

WHO ARE WE

ATG - Advanced Technology Group is a company specialized in NDT - nondestructive testing, providing wide range of services in every standard method of NDT testing: PT, MT, UT, ET, RT, VT, LT, and IRT, technical inspections and supervising as well.

ATG offers:

- NDT training and certification of NDT operators in Level I, II, III and Welding inspectors, Corrosion inspectors, Plant inspectors, and Third party inspectors
- Development and production of devices and equipment for NDT testing and welding inspections
- Outside Agency services - outsourcing of NDT systems of your company
- NDT and welding inspections for all industries
- Inspection activities in the industry - independent assessment of conformity, safety, and quality (ASME Code, PED inspections, shop / site inspections)

Our inspectors are reputable professionals with longtime experience from hundreds of projects all around the World. ATG Ltd. has been approved by API - American Petroleum Institute - as the Certified Training Provider. Therefore at present, we are the only one company in Central Europe able to provide RT, PT, IWI, and Inspector trainings with the final certification by API.

We are looking forward to have a good cooperation with you!

Yours faithfully,

Ing. Zbynek Zavadil
President

ATG - Advanced Technology Group
www.atgtesting.com
www.atg.cz

SERVICES FOR NDT

QUALIFICATION AND CERTIFICATION OF THE TECHNICAL PERSONNEL IN NDT

- acc. to EN 473/ISO9712
- acc. to ASNT Recommendation SNT-TC-1A
- acc. to NAS 410/EN 4179 for Aerospace
- acc. to ISO 11484/EN 10256 for Tube and Steel products
- acc. to UIC Code 960 for railways

IN WELDING

- welding inspectors (based on IIW IAB procedures)
- responsible and coordination persons for welding
- processes welders

IN CORROSION AND PLANT INSPECTION

- inspectors for API 510, API 570, API 653, ASME (VI)
- inspectors acc. to the EN 13387
- workshop inspectors
- plant inspectors

IN THIRD PARTY INSPECTION

- shop/site inspectors
- expediting inspectors

OUTSIDE AGENCY SERVICES/SERVICES OF NDT LEVEL 3

ATG offers complex and also partial solution for yours NDT systems acc. to the SNT-TC-1A / Level III and EN4179/NAS410 services like as follows:

- creation of company qualification, certification systems, legislative ...
- creation of company NDT system documents documentation (Written Procedures, Written Practice, ...)
- training of NDT personnel for Level I, II, III
- testing procedures processing
- support with the turn over to another qualification system
- instructions for concrete applications support with choosing of NDT methods and testing devices
- creation of company qualification, certification systems, legislative ... confirmation of methodologies
- outputs from tests, protocolling of results
- training and the exam in our classrooms and laboratories, or even at your site

- cooperation with defining standards of feasibility
- consultancy and NDT Level III technical support
- audits and inspections, process supervision
- support during customer or independent audits (e.g. EASA or NADCAP for example)
- support for the gain of experience practice for newly implemented NDT methods

INSPECTIONS SERVICES

- ASME Code inspections, PED inspections
- shop / site inspections - worldwide
- nondestructive testing using VT, PT, MT, ET, RT, UT, LT, AT, VA, LA, IRT NDT methods, structuroscopy
- conductivity measurements, coating thickness measurements and thickness measurements
- examination of composite materials and bonded joints
- RLA – residual life assessment
- CE marking
- corrosion inspections and consultancy (corrosion inspections)
- assessment according to the codes: EN, ASME, API, AWS

OUR EMPLOYEES

- are reputable professionals with longtime experience have experience from hundreds of projects worldwide
- many of our employees are qualified in NDT Level III, IWI, and EWE/EWI,
- they are also PED inspectors (certified by HSB International)
- some inspectors are approved by SAUDI ARAMCO, ENEL/RINA, JGC, ADCO, ALSTOM, SIEMENS, FMC ...

PRODUCTS FOR NDT

We develop and produce the **devices** and **equipment** for NDT testing - **tailored to your needs!**

If you need completely new NDT equipment, only partly renovate your lab instruments, or completely new design of NDT facility; we will be pleased to prepare a complete proposal, which will include all equipment and tools needed for your NDT application. We supply all equipment from simple portable instruments up to fully automatic inspection lines with robotic manipulation systems. Equipment calibrations are obviousal. We are supplying NDT material and equipment for each basic NDT method (VT, PT, MT, ET, RT, UT).

WE DELIVER FOLLOWING EQUIPMENT:

- testing equipment/systems, automated testing lines with equipment for calibration and confirmation
- NDT accessories as: probes, calibration gauges, etalon sets, calibration parts, test blocks, ...
- Measurement equipment for process confirmation

PT	FPI/Penetrant lines – manual or automated equipment for electrostatic application of penetrant and developer UV lamps - manual or stationary water treatment systems for input and output water surface treatment systems/lines for etching or degreasing process filtration units with active carbon
MT	manual electromagnetic yokes MT portable generators MT benches, stationary magnetic flow detectors demagnetization units automated and combined MT and UT systems
UT	UT systems - automated or portable UT tanks UT lines combined lines UT/ET
RT	shielding cabins, X-ray bunkers radioscopic systems
ET	ET probes - rotary, special, absolute, differential, multidifferential ET systems
VT	VT equipment - endoscopes, sets of testing gauges for welds, SCRATA replicas sets for welding inspectors / inspector kits

ATG - PRODUCTS FOR NDT

UT automated tanks

MT yokes

MT benches

PT/FPI lines

VT inspection kit

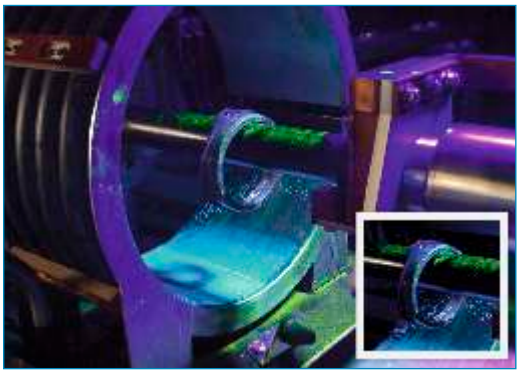
MT generators for AC/DC

MT UNIMAG 14000 AC/AC

MT UNIMAG 400 with touch screen

MT UNIMAG 13000 for shafts testing up to 25t

DEMAT 300 demagnetization unit



MT UNIMAG 1200 Aerotester (quick break)

MT automated benches for bearings

SHOP INSPECTION SERVICES

These services are provided with assistance of collaborating offices worldwide in order to optimize travel expenses. This type of cooperation allows high flexibility.

Supplier selection

Due to our worldwide network of subsidiaries and offices of our partners, we are able to find and suggest potential suppliers of raw materials and/or finished products for your projects.

Suppliers classification

ATG performs the qualification audits for new and potential suppliers. We are able to determine whether the supplier has a functional system of quality, qualified personnel, resources and production capacities, financial resources, etc.

Technical assistance

ATG provides proposals including modification of ITP (Inspection Test Plan) or inspection procedure. ATG aproves documentation requirements for any equipment, such as Passport of pressure vessels or MDR (Manufacturer Data Record).

Inspection during manufacture

This inspection is based on ITP (Inspection Test Plan) and is a control of production, monitoring of compliance with technological procedures, standards, and customer specifications. In the case of gross deficiencies and exhibited nonconformities the Punch List is created. Then both forms are integrated as a part of the Inspection Report.

Expediting services

Our expediting services include coordination of expediting with all suppliers, monitoring the dispatch of material, expediting visits, field and desk expediting, recommendations for necessary measures, reporting, situation assessment for your overall project, supplier performance monitoring.

SITE INSPECTION SERVICES

Site Inspection includes visual review of completed site welded connections, review of connections during erection, NDT inspection, monitoring of installation procedures, witness the applications, conformance reviews of structural steel members etc.

Inspection of shipments

Performs checks completeness and damage after delivery to the construction site. Control of completeness, damage, corrosion, paint damage, etc. The photo documentation, reports and NCR (Non-Conformity Report) are included in the final result.

Inspection during construction

We can establish a complete QC (Quality Control) team that will monitor all processes on site:

- **QC Site Manager:** Responsible for full compliance with the quality, coordination, inpection, solving technical problems and disagreements, communication with customers and suppliers.
- **Civil Inspector:** Responsible for supervision and process control. Supervision of excavation, shoring, concrete, masonry, insulation, finishes, etc.
- **Mechanical Inspector:** Responsible for installation of steel structures, pressure equipment, boilers, pumps, compressors, etc.
- **Welding Inspector:** Responsible with the assessment of WPS, PQR, welders, welding supervision, preheating, solution non-conformities, etc.
- **NDT Inspector Level II:** Supervision of the implementation and performing of different NDT testing methods, calibration, etc.
- **NDT Inspector Level III:** Responsible for the approval of NDT procedures for tests evaluations, and solution of NCRs
- **Electrical / Instrumentation Inspector:** Responsible for the installation of electrical equipment, including conductors, cables, in-process testing, protection, etc.

OUR APPROVALS AND QUALIFICATION STATUS

- ADCO - Abu Dhabi Company for Onshore Oil Operations
- API - American Petroleum Institute (Certified Training Provider)
- Czech Gas Association for training in VT – welds
- Czech NANDTB (National Aerospace NDT board)
- Czech Welding Society ANB training center for IIW (International Institute of Welding)
- European Agency for Safety Aviation (EASA Part 145 approval D1) - license to services
- FMC Technologies - petroleum exploration, production, transportation
- Hartford Steam Boiler International Inc.
- Honeywell for MT and PT testing in Level III/SCA
- Iraqi Civil Aviation Authority for NDT trainings NAS410/EN 4179 (all methods in level I, II)
- Ministry of Electricity of Iraq (MoE) / of Oil (MoO) / of Industry and Minerals of Iraq (MoI)
- Ministry of Education of the Czech Republic for NDT Level II trainings
- Reaktortest Ltd. - accredited certification body, notified RTPO acc. to 97/23/ER
- Sector Cert GmBH - accredited certification body, notified RTPO acc. to 97/23/ER
- TÜV Nord - accredited certification body, notified RTPO acc. to 97/23/ER

You can find all our approvals and certificates you can find at: www.atg.cz.

ATG STATUS IN INDEPENDENT CERTIFICATION SERVICES

ATG status	Scope of training	Approved by
Authorized Body	International Welding Inspectors	CWS ANB (Czech Welding Society- Authorized National Body by IAB, EWF and EOTC)
Authorized Training Body	NDT personnel acc. to EN 473	SECTOR Cert, TÜV Cert and Reaktortest (all notified as Rec. Third. Party Org. for PED - Pressure Pressure Equipment Directive 97/23/EC); Recognized Third Party Organization
Authorized Training Body	Qualification of corrosion inspectors	APC - Association for Personnel Certification Reaktortest (EN and ISO codes for training, qualification and certification)
Authorized Training Body	Railways NDT operators qualification – maintenance according to the EN 473, UIC code 960	ŽSR VVUZ Žilina- Railways of the Slovak Republic
Outside Agency	NDT personnel - according to EN 4179 and NAS 410	National Aerospace NDT Board
Outside Agency Level III	EN 10256 and ISO 11484 for tube production NDT personnel	Accredited qualification (certification body Reaktortest certification body is accredited for ISO 11484)

ATG STATUS IN EMPLOYER BASED CERTIFICATION SERVICES:

ATG status	Scope of training	Use by
Outside Agency	ASNT Recommendation SNT-TC-1A, oriented for production, inspection and supervision of companies, ASNT CP-189	ASME and API applications

TRAINING AND QUALIFICATION SERVICES

All our courses fulfill all requirements of the most used qualification standards as ASNT SNT-TC-1A, ISO 9712, EN 473 etc. Our courses are designed to hand on the maximum of our professional experience. Our trainees will get practical skills in our testing rooms and required theory understanding in our lecture rooms as well. Our lecturers are highly educated experts, with long-time experience on sites, prepared for practical discussions and your support during the training. All courses fulfill requirements of ISO TR 25107 (NDT Guidelines for NDT training syllabuses).

Our QUALIFICATION and TRAINING services are particularly aimed at the following processes

1. **NDT (Non Destructive Testing)**
2. **Welding inspection**
3. **Plant Inspection including painting and Corrosion Inspection**
4. **Third Party Inspection**

All qualifications are used especially for

- Operators in above-mentioned processes (NDT, Welding, Plant, TPI inspection)
- Designers and technicians
- Inspectors and operators of release department
- Welding operators, supervisors and inspectors
- Middle and operating managementtraining for operators or middle and top management

We can provide various courses for every standard NDT method, each suited to your particular requirements. The type of course depends on how much experience you have, whether you have received training previously or currently hold a certificate, and also what type of certification you want to obtain. Shortly, we are able to use your previous qualification.

Other courses

- **L A** Lubrication Analysis according to ISO 18436 and EN4179/NAS410
- **I R T** Infrared Thermography according to ISO 18436 and EN4179/NAS410
- **VA** Vibration Analysis – in preparation according to ISO 18436 and EN4179/NAS410
- **AE** Acoustic Emission – in preparation
- **ReT** Replica Testing and Metallography
- **Radiation safety** – Health and safety management for Radiographic testing and using X-rays

Our courses are based on practical exercises and testing

During the training you will have all our professional equipment at your disposal. You can use the FPI lines, MT benches, UT manipulators, handy digital or analogue ET and UT devices,

handy magnetizers, X-Ray cabinet, VT gauges and inspection sets, hundreds of samples with discontinuities etc. - depending on your training course.

Behind the qualification training ATG offers

- Refreshing programs for all systems of personnel recertification
- Technical qualification of the company staff - it means supervision, refreshing, testing, technical training for operators or middle and top management

All training courses and exams are managed according to the schedule or can be realized on demand, according to the individual offer. Please contact ATG training or examining center for more details.

ATG has full right to change term of any training course and exams in case of necessity.

ATG CERT CERTIFICATION SERVICES

We provide the final certification process to all our training courses. The certificate can be issued according to required qualification system in the specified system, method, sector, level, and code. You can choose the accredited, non-accredited, or employer-based certificates. Most of all certificates are valid for 5 years, the renewing is possible for the next 5 years after the applying. The recertification exam follows after this period.

Process	Qualification and certification standard	Certification Body
NDT	ISO 9712/EN 473	REAKTORTEST
		SECTOR Cert
		TÜV Nord
		APC (Association for Personnel Certification)
		NIKIMT (in preparation, for Russia)
	UIC 960 code	Slovak railways
WELDING	ISO 14731, IIW IAB-04112001 / EWF-450-02	CWS ANB
NDT	EN 473, ISO 11484,	ATG - RT
PLANT AND CORROSION INSPECTION	ISO 18436	ATG
NDT	SNT-TC-1A, EN 4179/NAS 410, EN 10256, ISO 11484	ATG
WELDING	ISO 14731	ATG
API Q1 INTERNAL AUDITOR	API Q1 code	ATG
NDT for Aerospace	EN 4179/ NAS 410	ATG approved by Czech NANDTB
NDT	EN 473, SNT-TC-1A, ISO 11484,	API TPCP
WELDING	ISO 14731	API TPCP (in preparation)
PLANT AND CORROSION INSPECTION	ISO 18436	API TPCP (in preparation)

ATG CERT CERTIFICATION BODY

ATG CERT is an independent certification body which provides personnel qualification and certification of special processes for:

- NDT (all methods in Level I, II, III)
- Welding (IWIP, ASME CODE SECTION IX)
- Inspection of machinery / Plant Inspector: API 510, API 570, API 653, Corrosion Inspector
- Independent inspection – specialized for the concrete needs of specific industry (Aerospace, Engineering, Power plants …)

Certification Body ATG CERT

How to obtain the certification

Basic rules for ATG CERT certification, there is necessary to meet the requirements of the certification and make a request. All ATG CERT certification systems are based on the requirement of meeting 5 basic attributes:

- education
- documented qualifications with a defined minimum length and content
- documented experience in the process
- pass the exam with a defined content
- physical ability

ATG CERT provides the personnel certification with these certification bodies:

- ATG CERT (Czech Republic)
- API (USA)
- HSB (USA)
- CWS ANB (Czech Republic)
- GAS (Czech Republic)
- TÜV Nord Czech (Czech Republic)
- TÜV Nord International (Germany)
- Reaktortest (Slovak Republic)
- SECTOR Cert (Germany)
- APC (Czech Republic)

ATG CERT Certification systems are structured in this way:
Process > System > Method > Qualifying level > Sector.

All qualifying systems ATG CERT are working with three qualification levels, level 1 is the lowest (with the smallest powers and responsibilities) and level 3 is the highest the process manager in the company).

For obtaining the qualification in level 3 - the „Basic exam" is necessary to pass.

PED - Pressure Equipment Directive qualification is possible to obtain after passing the specific exam.

API 510 GENERAL COURSE

Code: API 510
The inspection code API 510 covers the maintenance inspection, repair, alteration, and rerating procedures for pressure vessels in petroleum or chemical process industries.

Based on: recommended practice SNT-TC-1A.
Used codes: API 510, RP 572, RP 573, RP 574, RP 576, RP 579, ASME Section V, VIII, and Section IX, NACE RP 0472, MR 0175

What you will learn

The participants will be familiar with the inspection practices and types of inspection; learn how to evaluate repairs, alterations, and rerating of pressure vessels. They gain insights what testing methods are required. Emphasis will be placed on corrosion and minimum thickness evaluation, estimated remaining life and inspection interval determination. Requirements for NDE inspection and testing will be provided.

Upon completion of this course, participants will have an overview of: pressure vessel maintenance, including inspection, evaluation of various defects, and repair/alteration rules of various Codes and Standards. They will be able to extend the expertise in defect assessment and equipment integrity analysis.

Level 2 training highlights

- Types and definition of maintenance inspection
- Corrosion and minimum thickness evaluation
- Estimated remaining life and corrosion rate
- Risk based analysis and fitness for service
- Testing
- Repair methods
- Inspection record and reports
- Health, Safety and Environment

About Certification

The examination and certification process is directly related to qualification system. In case when the training is performed in accordance with EN473 / ISO 9712 the certificate can be issued by independent European certification body ATG CERT.

Additional details about training and certification are related to specific needs of client and shall be discussed individually. Please refer section "contacts" or our website www.atgtesting.com.

API Training provider certification

API Certified Training Provider

The training and examination are provided under qualification system approved by API - American Petroleum Institute. You can obtain final certificate with API logo !

API 570 GENERAL COURSE

Code: API 570

The inspection code API 570 covers the maintenance inspection, repair, alteration, and rerating procedures for piping systems that have been in-service in petroleum or chemical process industries. However it may be extended for any piping systems.

Based on: recommended practice SNT-TC-1A.
Used codes: API 570, RP 574, RP 578, RP 579, 570, ASME Section VIII, and IX and B 31.3, NACE RP 0169, RP 0170, RP 0274, RP 0275

What you will learn

The participants will be familiar with the inspection practices and types of inspection; learn how to evaluate repairs, alterations, and rerating of piping systems. They gain insights what testing methods are required. Emphasis will be placed on corrosion and minimum thickness evaluation, estimated remaining life and inspection interval determination. Requirements for NDE inspection and testing will be provided.

Upon completion of this course, participants will have an overview of: piping system maintenance, including inspection, evaluation of various defects, and repair/alteration rules of various Codes and Standards. They will be able to extend the expertise in defect assessment, and equipment integrity analysis.

Level 2 training highlights

- Types and definition of maintenance inspection
- Types and definition of maintenance inspection
- Corrosion and minimum thickness evaluation
- Estimated remaining life and corrosion rate
- Risk based analysis and fitness for service
- Testing and assessment of inspection finding
- Repair methods
- Inspection record and reports
- Health, Safety and Environment

About Certification

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API 653 GENERAL COURSE

Code: API 653

The inspection code API 653 covers the maintenance inspection, repair, alteration, relocation, and reconstruction for steel storage tanks that have been in-service in petroleum or chemical process industries. API 653 employs the principles of construction code API Standard 650, specifically many of design, welding, examination, and material requirements.

Based on: recommended practice SNT-TC-1A.
Used codes: API RP 571, RP 577, RP 575, RP 579, St 650, RP 651, RP 652, RP 653, API Std. 2000, ASME Section IX

What you will learn

The participants will be familiar with the material, design, fabrication, erection, and testing requirements; learn the requirements for inspection, repair, alteration, evaluation and reconstruction of storage tanks. Emphasis will be placed on mechanical design requirements, suitability for service, and tank repair and alteration. Requirements for inspection, NDE examination, and hydrostatic testing will be provided.

Upon completion of this course, you will have an overview of: storage tanks design, maintenance, including inspection, evaluation of various defects, and repair/alteration rules of various Codes and Standards. You will be able to extend the expertise in defect assessment, and equipment integrity analysis.

Level 2 training highlights

- Design requirements and options
- Inspection of welds, parts testing and repairs
- Tank component evaluation
- Tank repair and alteration
- Dismantling and reconstruction
- Examination and testing
- Inspection record and reports
- Health, Safety and Environment

About Certification

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ASME SECTION VIII COURSE / REFRESH

Code: ASME VIII

This course will introduce participants to the ASME Section VIII, Division 1 code for Unfired Pressure Vessels. It will provide an understanding of the background of the overall ASME Boiler and Pressure Vessel Code, its organization, and applicability. This course should be attended by engineers, designers, fabrication personnel, QA supervisors, and inspectors who work for pressure vessel owners, fabricators, inspection companies, and government agencies. As well individuals involved in the purchase, design, fabrication or inspection of pressure vessels, or professionals who estimate jobs which impose the requirements of Section VIII, Division 1 are welcome.

Based on: ASME VIII

What you will learn

The participants will become familiar with the background and requirements of Section VIII, Division 1 in order to facilitate interpreting, understanding and compliance with that Code; learn about design rules and formulas, materials, fabrication, examination, inspection, testing certification and documentation. Emphasis will be placed on learning about material types, design for pressure vessels fabricated by welding. Requirements for pressure vessels constructed of carbon and low alloy steels will be provided.

Upon completion of this course, you will be able to understand the background of the Code, apply the Code rules to more common design and fabrication situations.

Training highlights

- Material and design
- Fabrication
- Welding
- Non-destructive evaluation
- Acceptance standards
- Hydrostatic and pneumatic testing
- Inspections
- Marking and reports
- Quality control systems

About Certification

The examination and certification process is directly related to qualification system. In case when the training is performed in accordance with EN473 / ISO 9712 the certificate can be issued by independent European certification body **ATG CERT**. Additional details about training and certification are related to specific needs of client and shall be discussed individually. Please refer section "contacts" or our website www.atgtesting.com.

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ASME SECTION IX COURSE / REFRESH

Code: ASME IX

This course covers the requirements of ASME Section IX related to the qualification of the welders, welding operators, brazers, and brazing operators, and the procedures employed in welding or brazing. This course should be attended by welding engineers, quality assurance personnel, auditors, testing laboratory personnel, maintenance personnel and jurisdictional inspection personnel. Anyone involved in qualifying welders, brazers and operators or others involved in writing and qualifying welding and brazing procedure specifications are welcome.

Based on: ASME IX

What you will learn

The participants will learn how to achieve effective compliance with ASME Section IX requirements; review welding processes/variables and basic welding metallurgy. Emphasis will be placed on writing and qualifying welding procedure. Upon completion of this course, you will be able to: interpret, understand and comply with ASME Section IX.

Training highlights

- Review of welding processes and common variables
- Basic welding metallurgy
- Filler metal specifications
- Selecting and preparing the tests coupon
- Welding procedure qualification
- Practical session writing the welding procedure specification
- Welder and welding operator qualifications
- Retest and renewal of qualification
- Supplementary procedure qualification

About Certification

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ASME B31.3 - PROCESS PIPING

Code: ASME B31.3 - PROCESS PIPING

Based on: ASME B31.3 - PROCESS PIPING. This course covers the requirements on fabrication of new process piping

What you will learn

The participants will become familiar with the background and requirements of ASME B 31.3. YThey will be able to interpret and distinguish requirements for metallic and nonmetallic piping system, piping in Category M fluid service and high-pressure piping and get knowledge about the design rules and formulas, materials, fabrication, examination, inspection, and testing.

Training highlights

- Design conditions and criteria, pressure design of components, fluid service
- Materials specification, temperature limits, impact testing
- Inspection, examination, testing
- High-pressure piping
- Fabrication and installation (welding, preheating and heat treatment)
- Health, Safety and Environment

About Certification

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IWIP INTERNATIONAL WELDING INSPECTION PERSONNEL

Code: IWI-B; IWI-S; IWI-C IX
Based on: ASME Code IX, AWS D1.1, EN ISO 3834, ISO 14731

What you will learn

The welding inspector is a person responsible (see ISO 14731) for testing and proving goods, devices, and processes and he/she is able to do assessment with the codes and rules in the whole production process where welding is used.

The IWIP qualification is managed by IIW IAB (International Authorization Board). Training and examinations are provided in approved places, all services correspond to the requirements of managing directive for welding inspectors.

The qualification IWIP has these 3 levels:

- IWI – B Basic
- IWI – S Standard
- IWI – C Comprehensive

Every level has different requirements on course duration and inspector responsibility, B – is the level with the lowest difficulty, C is the highest qualification.

Minimal qualification requirements for participants

Level	Qualification requirements	Practice experience	WT (welding technology) requirements	WI (welding inspections) requirements
IWI – C	technically oriented secondary school with GCE (General Certificate of Education)	3 years of practical experience in welding	121 hours	97 hours
IWI – S	university graduate	1 year of practice experience in welding	95 hours	63 hours
IWI – B	trained in engineering or passed exam like EN 287-1	2 years of practice in welding	66 hours	42 hours

How is the training organized

The training is provided in 2 steps: WT (technology) and WI (inspection). After WT part applicants have to pass the intermediate exam; after WI part the final exam as well.

The directive CWS ANB IAB-041r3-08 accepts the direct access without the WT part attendance as well. The participant shall be certified by comparable or higher qualification in personnel supervising (having a diploma like IWP, IWS, IWT, IWE) or have to pass the intermediate exam from the WT part. In case that this differential exam hasn't been passed, completing the WT part is a must.

Minimal qualification requirements for direct access to inspection mode „WI" where is differential exam not required.

Required level	Former qualification of personnel supervising
IWI – C	IWE, IWT
IWI – S	IWE, IWT, IWS
IWI – B	IWE, IWT, IWS, IWP

The duration of WT - technical welding module

WT I	IWI – C	66 hours (8 days)
WT II	IWI – S	95 hours (10 days)
WT III	IWI – B	121 hours (15 days)

According to the CWS ANB IAB-041r3-08 directive.

DIPLOMA - INTERNATIONAL WELDING INSPECTOR

All participants of our courses can receive the IWI International Welding Inspector diploma after the fulfillment of all the certification requirements. Authorized National Body (CWS ANB) defines where the applicant shall apply for the certificate. The applicant can apply for the Certificate 12 months later, if he/she obtained another 12 months of practice experience.

The terms for final exams are set individually, the term for the modules and continuous exams (intermodular) are announced individually as well, according to applicants demand. Our aim is to harmonize training and exam modules as much as possible.

Other information

See our websites www.atg.cz , or contact us at atg@atg.cz.

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The training and examination are provided under qualification system approved by API - American Petroleum Institute. You can obtain final certificate with API logo !

API Certified Training Provider

NDT BASIC & METHODS' COURSES / LEVEL 3

Code: NDT L3

The course is designed for individuals who want to get basic knowledge about NDT. Our trainings cover personnel qualification and certification programs, general applications of various NDT methods (RT, UT, MT, VT, ET, LT, PT), materials, and processes for NDT.

Based on: ASM Handbook Vol. 13, ASNT Level III Study Guides, ASME Code, API Codes, AWS Codes

What you will learn

The Level III NDT specialist main responsibility is for all company's processes like: developing, qualifying and approving procedures, establishing and approving techniques, interpreting codes, standards, specifications and procedures; and designating the particular NDT methods, techniques, and procedures to be used.

Training highlights

- SNT-TC-1A, EN 473, ISO 9712 ...
- Materials
- Fabrication
- Products technology
- Physical principles of other appropriate NDT
- Level II methods

Other information

To obtain the Level III certification all applicants must declare former training and practice experience according to ASNT SNT-TC-1A code. Level III qualification is composed of BASIC qualification and method qualification. It means before qualification in special method the trainee shall be qualified in BASIC.

The course is based on SNT-TC-1A. Alternatively we can provide this training course based on EN 473/ISO 9712 or on EN 4179/NAS 410 as well. The requested number of hours for EN/ISO certification is higher and therefore the duration shall be increased according to the request of the specific standard.

Additional details about training and certification are related to specific needs of client and shall be discussed individually. Please refer section "contacts" or our website www.atgtesting.com.

MT MAGNETIC PARTICLE TESTING / MPI

Code: MT L1 (for Level 1), MT L2 (for Level 2), MT L3 (for Level 3)

Magnetic particle testing is suitable for surface and sub-surface defect detection in ferromagnetic materials. The surface can be covered with thin layer of dielectric coating. It can be applied even on site or for serial testing.

Based on: recommended practice SNT-TC-1A. Alternatively we can provide this training course based on EN 473/ISO 9712 or on EN 4179/NAS 410 as well.

Used codes: The scope of standards covered by training is specified according to clients' needs. Basic standards covered by the training are usually: US standards (e.g. ASTM E 709, ASTM E 1444-05, ASME Code V/7) and set of EN and ISO standards (e.g. EN ISO 9931-1, 2, 3; EN ISO 17638; EN ISO 23278 etc.)

What you will learn

Training is based on understanding the simple physical principle and on upgrading this knowledge with specific needs of magnetic particle testing. The operator shall know how to verify the proper function of the process, which assures relevant results of the testing.

The level 1 training covers theory overview in direct connection to requirements of the relevant standards. This gained knowledge will prepare operator for accurate test performance. Training for Level 2 operators covers additionally detailed overview of relevant evaluation standards. The training is accompanied by practical tasks with testing and evaluation of samples.

Level I training highlights:

- Choosing the magnetization technique
- Determining of current intensity
- Verification of magnetic field intensity
- Detection media check
- Viewing conditions
- Overall process check
- Working with standards
- Health Safety and Environment

Level II training highlights

- Selection of suitable equipment
- Application of standard requirements
- Deeper insight into the physics
- Creation of written procedure
- Decision about the test results
- Health Safety and Environment

About certification

The examination and certification process is directly related to qualification system. In case when the training is performed in accordance with EN 473 / ISO 9712 the certificate can be issued by independent European certification body **ATG CERT**.

Additional details about training and certification are related to specific needs of client and shall be discussed individually. Please refer section "contacts" or our website www.atgtesting.com.

PT PENETRANT TESTING / FPI

Code: PT L1 (for Level 1), PT L2 (for Level 2), PT L3 (for Level 3)

Provided under:

Magnetic particle testing is suitable for surface and sub-surface defect detection in ferromagnetic materials. The surface can be covered with thin layer of dielectric coating. It can be applied even on site or for serial testing.

Based on: recommended practice SNT-TC-1A. Alternatively we can provide this training course based on EN 473/ISO 9712 or on EN 4179/NAS 410 as well.

Used codes: The scope of standards covered by the training is specified according to clients' needs. Basic standards covered by the training are usually: US standards (e.g.: ASTM E 165, ASTM E 433, ASTM E 1417, AMS 2644, ASME Code V/6) and set of EN and ISO standards (e.g.: EN 571-1; EN ISO 23277; EN ISO 3452 etc.)

What you will learn

Training is focused on explanation how to recognize important factors that affect the testing results and help NDT operator to understand how set-up process parameters to optimize the test results.

The level 1 training covers theory overview in direct connection to requirements of the relevant standards. This gained knowledge will prepare operator for accurate test performance. Training for Level 2 operators covers additionally detailed overview of relevant evaluation standards. Classroom training is accompanied by evaluation of study cases; and by practical tasks with testing and evaluation of samples.

Level I training highlights

- Pre-cleaning of tested parts
- Penetration and excess penetrant removal
- Developers and developing
- Influence of temperature and time
- Viewing conditions
- Process control and test panel
- Working with standards
- Health Safety and Environment

Level II training highlights

- Selection of suitable equipment
- Application of standard requirements
- Recognition of relevant indication
- Understanding the evaluation criteria
- Evaluation study cases solution
- Health Safety and Environment

About certification

The examination and certification process is directly related to qualification system. In case when the training is performed in accordance with EN 473 / ISO 9712 the certificate can be issued by independent European certification body **ATG CERT**. Additional details about training and certification are related to specific needs of client and shall be discussed individually. Please refer section "contacts" or our website www.atgtesting.com.

RT RADIOGRAPHIC TESTING

Code: RT L1 (for Level 1), RT L2 (for Level 2), RT L3 (for Level 3)

Provided under:

Radiographic testing is NDT method suitable for internal defect detection. It can be applied to any industrial material almost without limitation (e.g. geometrical configuration of tested part). This method is widely used for welding inspection and in the casting industry.

Based on: recommended practice SNT-TC-1A. Alternatively we can provide this training course based on EN 473/ISO 9712 or on EN 4179/NAS 410 as well.

Used codes: The scope of standards covered by the training is specified according to client needs. Basic standards covered by the training are usually: US standards (e.g.: ASTM E 1742, ASTM E 94, ASTM reference radiograph catalogues, ASME Code V/2 , etc.) and set of EN and ISO standards (e.g.: EN 1435; ISO 17636; ISO 10675; EN 12 517; ISO 5579; ISO 4993; ISO 11699; etc.)

What you will learn

Training is focused on understanding of essential variables in radiography and their relation to testing accuracy. The NDT operator will understand how to improve setting of process parameters.

The level 1 training covers essential features of radiographic testing (e.g. geometrical arrangement, radiation source operation, IQIs, optical density etc.). All features are demonstrated on standard requirements and followed by study cases. For Level 2 is training followed by practical experience of image interpretation and evaluation based on standards (EN / ISO) and ASTM reference catalogues.

Level I training highlights

- Basic principle of radiography
- Film, screens, and film processing
- Image Quality Indicators
- Optical density
- Geometrical arrangement
- Equipment operation
- Working with standards
- Health Safety and Environment

Level II training highlights

- Exposure parameters selection
- Image interpretation
- Weld defect evaluation
- Reference radiograph catalogues
- Study cases evaluation
- Health Safety and Environment

About certification

The examination and certification process is directly related to qualification system. In case when the training is performed in accordance with EN 473 / ISO 9712 the certificate can be issued by independent European certification body **ATG CERT**. Additional details about training and certification are related to specific needs of client and shall be discussed individually. Please refer section "contacts" or our website www.atgtesting.com.

RT DIR2 DIGITAL INDUSTRIAL RADIOGRAPHY

Code: RT DIR2 (for Level 2)

This training is focused on Computed Radiography (CR) and / or Digital Radiography (DR). These advanced radiographic techniques are using different detection than classical radiography, which helps to significantly improve the detection capabilities of radiography.

Based on: recommended practice SNT-TC-1A. Alternatively we can provide this training course based on EN 473/ISO 9712 or on EN 4179/NAS 410 .

Used codes: The scope of standards covered by the training is specified according to client needs. Basic standards covered by the training are usually: US standards (e.g.: ASTM E 2033, ASTM E 2007, ASME Code V/2 + app. 8) and set of EN and ISO standards (e.g.: EN 14784; ISO 17636; ISO 16371 etc.)

What you will learn

Training covers the differences between classical film radiography and non-film radiographic techniques. The main focus will be on differences in response of film and non-film technology.

The level 1 training reviews the basic RT principles with respect to non-film technology. Operator will learn how to handle the detector. Basics of digital image acquisition will be covered as well as the meaning of image quality and "Signal-to-Noise Ratio". Training for Level 2 operators covers additionally rules for digital image processing, viewing, evaluation, measurements, and archiving.

Level I trainin highlights

- Digital techniques overview
- Difference – film vs. non-film
- Detector handling
- Optical density vs. SNR
- Hardware operation
- RT image acquisition
- Working with standards
- Health Safety and Environment

Level II training highlights

- Imaging software usage
- Dimensions measurement
- Interpretation and evaluation
- Standard and code requirements
- Evaluation study cases solution
- Health Safety and Environment

About certification

The examination and certification process is directly related to qualification system. In case when the training is performed in accordance with EN 473 / ISO 9712 the certificate can be issued by independent European certification body **ATG CERT**.

Additional details about training and certification are related to specific needs of client and shall be discussed individually. Please refer section "contacts" or our website www.atgtesting.com.

RT - FI RADIOGRAPHIC INTERPRETER

Code: RT-FI (for Level 2)

Radiographic interpreter training is suitable for operators and inspectors involved in welding quality assessment. The training is focused mainly on the interpretation of radiographic images.

Based on: recommended practice SNT-TC-1A. Alternatively we can provide this training course based on EN 473/ISO 9712 or on EN 4179/NAS 410 as well.

Used codes: The scope of standards covered by the training is specified according to client needs. Basic standards covered by the training are usually: AWS B5.15; API 1104; ASME B31.1; ASME B 31.3; ASME BPVC; AWS D1.1; EN 12517; ISO 10675 etc.

What you will learn

Training will cover comprehensive overview of standards for evaluation of weld quality. Rules for formal image acceptability will be overviewed (e.g. meaning of IQI, optical density, marking, covering of ROI etc.) Importance is paid on correct assessment of criterion of acceptability. During the training are viewed complex sets of reference images with focus on defect recognition, measurement and evaluation. The geometrical nature of imperfection is explained with relation to better understand evaluation criterion.

Test result evaluation belongs among duties of operator Level 2.

Level II training highlights

- Acceptance criterion calculation
- Formal image acceptability
- Defect nature
- Image evaluation
- Study cases solution
- Health Safety and Environment

About certification

The examination and certification process is directly related to qualification system. In case when the training is performed in accordance with EN 473 / ISO 9712 the certificate can be issued by independent European certification body **ATG CERT**.

Additional details about training and certification are related to specific needs of client and shall be discussed individually. Please refer section "contacts" or our website www.atgtesting.com.

UT ULTRASONIC TESTING

Code: UT L1 (for Level I), UT L2 (for Level II), UT L3 (for Level III)

By using ultrasonic method you can identify location and orientation of imperfection or the material wall thickness. Ultrasonic method is not strictly limited by thickness, material type and part type. It is possible to detect both internal and surface defects and also both volumetric and planar defects.

This is a comprehensive course for individuals with little or no experience in ultrasonic testing; as well as a refresher course for individuals who need to brush up on ultrasonic. Through lecture and laboratory exercises; students gain understanding of technical principles and test procedures.

Based on: Recommended practice SNT-TC-1A. Alternatively we can provide this training course based on EN 473/ISO 9712 or on EN 4179/NAS 410 as well.

Used codes: ASTM E 2375; ASTM E 213; ASTM E 164; ASTM E 797; ASTM E 317; ASME Code Section V; EN ISO 11666; EN 10160; EN 10228-3; EN ISO 23279; EN ISO 17640; EN 12680-1; EN 12668-3

What you will learn

Training is focused on explanation of basic ultrasonic principles and basic knowledge of ultrasonic standards. Practical part is then focused to recognition, positioning and sizing of indications in welds, forgings, castings and pipes. Trainee will also get knowledge about practical limitations and difficulties which can occur during his practice.

Our courses will prepare you to pass the final exam according to SNT-TC-1A or EN 473 code for Level 1, 2 or 3, to be able to operate manually or on automatic lines typical ultrasonic testing.

UT Level I will be able to test parts according to the relevant standards, recognize, size and locate the defects in most types of parts, and report them. Level II certified will be trained to inspect according to applicable codes and specifications; and learn to develop procedures instructions for your in-house applications. Classroom training is accompanied by evaluation of study cases; and by practical tasks with testing and evaluation of samples.

Level I training highlights

- Principles of Ultrasonic Testing
- UT equipment
- UT Methods
- Angle beam and surface wave technique
- Immersion technique
- Evaluation of discontinuities
- Instrument and sensitivity calibration
- Vertical Linearity Check
- Health Safety and Environment

Level II training highlights

- demonstrate their understanding of the body of knowledge of the NDT method
- applications Practical applications (evaluation on components)
- explain the scope and limitations of the method
- select the proper procedure
- select the appropriate equipment and accessories for the employer's
- select the proper calibration standards
- calibrate the equipment
- apply the method and
- interpret and , report and evaluate the results of the NDT

In direct approach to Level 2 it is necessary to complete both levels = 3 weeks duration. For the applicant having the UT1 L1 course is the general qualification course (1 week) optional.

Other information

Every trainee will obtain a set of educational materials, each course contains many specific training tests (with evaluation) and practical knowledge. Alternatively we can provide training suitable for candidates working to a written practice based on EN 473 code.

About Certification

The examination and certification process is directly related to qualification system. In case when the training is performed in accordance with EN473 / ISO 9712 the certificate can be issued by independent European certification body ATG CERT.

Additional details about training and certification are related to specific needs of client and shall be discussed individually. Please refer section "contacts" or our website www.atgtesting.com.

UT PA ULTRASONIC PHASED ARRAY TESTING

Code: UTPA L2

Phased array is widely used in several industrial sectors, such as construction or power generation. This method is an advanced NDT method that is used to detect component failures i.e. cracks or flaws and thereby determine component quality. Due to the possibility to control parameters such as beam angle and focal distance, this method is very efficient regarding the defect detection and speed of testing. Apart from detecting flaws in components, phased array can also be used for wall thickness measurements in conjunction with corrosion testing Personnel must be previous qualified in UTL2!

Based on: acc. to SNT-TC-1A; must be previous qualification in UT Level 2

Used codes: ASME V:2011a article 4; ASTM E 2700, ASTM E 2491; ASTM E 164 ; ISO 13588

What you will learn

Training is focused on the basic Phased Array knowledge and laws, which help the operator to select suitable probe type, wedge, and setting of Phased Array instrument. Participants also get knowledge about method limitation and information about applicable standards.

Participants will get practical information about method of sensitivity setting, types of inspection (manual/automatic) and basic overview about its performing. They also get information about usage of relevant standards and evaluation of Phased Array indication. Practical part of training is performed at device Sonatest VEO (16:64) or at your own device.

Level II training highlights

- UT fundamentals of phased array
- Phased array instruments and their set-up
- Phased array probes
- Scan types used for phased array
- Calibration and checks with specific blocks
- Software for data collection, analysis and evaluation
- Typical application and references codes and standards
- Health Safety and Environment

About certification

The examination and certification process is directly related to qualification system. In case when the training is performed in accordance with EN 473 / ISO 9712 the certificate can be issued by independent European certification body **ATG CERT**.

Additional details about training and certification are related to specific needs of client and shall be discussed individually. Please refer section "contacts" or our website www.atgtesting.com.

UT TOFD TIME OF FLIGHT DIFFRACTION

Code: UTTOFD L2

Ultrasonic testing with Time Of Flight Diffraction is a new specific technique. This technique is very often used for pipelines testing, weld testing and pressure vessels testing for detection of imperfections with improper orientation for conventional UT. Method is suitable for detection of defects in welds. Especially, because its high velocity of inspection is suitable for automatic scanning of long welds like pipe welds.

Based on: ASME V:2011a article 4; BS7706, EN 583-6, ASTM E 2373-04, EN ISO 10863, EN 15617 acc. to SNT-TC- 1A; must be previous qualification in UT Level 2

Used codes: ASME V:2011a article 4; ASTM E 2700, ASTM E 2491; ASTM E 164 ; ISO 13588

What you will learn

Training is focused on basic TOFD knowledge and practical knowledge like probe selection, arrangement of testing and mainly evaluation of indication.

Participant will get practical information about used techniques, difficulties, which can occur during testing and equipment which can/must be used for inspection. Trey will gain knowledge about instrument setting and about testing arrangement (like scan arrangement, multiple zone scanning and probe selection). Greatest emphasis is placed on signal evaluation, data collection and reporting of findings.

Level II training highlights

- UT fundamental of TOFD, SAFT and diffraction process
- TOFD instruments and their set-up
- TOFD probes and scanners
- Calibration and checks with specific blocks
- Scan types use for TOFD and gray scale imagine
- Software for data collection, analysis, and evaluation
- Typical application and references codes and standards
- Health Safety and Environment

About certification

The examination and certification process is directly related to qualification system. In case when the training is performed in accordance with EN 473 / ISO 9712 the certificate can be issued by independent European certification body **ATG CERT**.

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VT VISUAL TESTING

Code: VT L2 (for Level 2), VT L3 (for Level 3)

Visual testing is versatile testing method commonly required by standards. Visual testing can reveal surface defects of any industrial products during manufacturing process as well as during the service.

Based on: recommended practice SNT-TC-1A. Alternatively we can provide this training course based on EN 473/ISO 9712 or on EN 4179/NAS 410 as well

Used codes: The scope of standards covered by the training is specified according to client needs. Basic standards covered by the training are usually: US standards (ASME Code V/9; ASME Code VIII; ASTM A 802; MSS-SP-55) and set of EN and ISO standards (e.g.: EN ISO 5817; EN ISO 17637, EN 1370 etc.)

What you will learn

The visual testing can be easily performed but evaluation of the test is strongly dependent on operator's experience. Because the evaluation is done at the moment of inspection the direct qualification on Level 2 is highly recommended.

Training covers theoretical background necessary for correct performing of tests (in relation to relevant standards). Main focus is on the surface defects' nature and recognition (weldments, castings, forgings, rolled products etc.). During training evaluation based on numerical criterion (welds) as well as evaluation with usage of sets of reference photographs and comparators is practiced.

Level II training highlights

- Inspection conditions
- Defect recognition
- Work with endoscopes
- Evaluation of weldments
- Evaluation of castings
- Health Safety and Environment

About certification

The examination and certification process is directly related to qualification system. In case when the training is performed in accordance with EN 473 / ISO 9712 the certificate can be issued by independent European certification body **ATG CERT**.

Additional details about training and certification are related to specific needs of client and shall be discussed individually. Please refer section "contacts" or our website www.atgtesting.com.

VT VISUAL TESTING OF WELDS

Code: VT L2 W (for level 2)

Visual testing of welds is regular requirement not only as self-standing NDT testing, but also it is required prior performing other NDT method . It is one of most required NDT methods.

Based on: standard ISO 17637 of on recommended practice SNT-TC-1A. Alternatively we can provide this training course based on EN 473/ISO 9712 or on EN 4179/NAS 410 as well

Used codes: The scope of standards covered by training is specified according to client needs. Basic standards covered by training are usually: US standards (ASME Code V/9; ASME Code VIII) and set of EN and ISO standards (e.g.: EN ISO 5817; EN ISO 17637, EN ISO 6520 etc.)

What you will learn

Training covers necessary theoretical background for correct performing of tests (in relation to relevant standards). Main focus is on the surface defects' nature and its origin (related also to basics of welding process). The correct identification of welding defects of various types of weld joints is followed by study cases evaluation. Correct setting of acceptance criterion based on standard and evaluation is in this training essential. The practical part covers also overview of weld gauges usage and possibilities.

Level II training highlights

- Acceptance criterion selection
- Defects of but welds
- Defects of fillet welds
- Weld gauges
- Practical tasks
- Health Safety and Environment

About certification

The examination and certification process is directly related to qualification system. In case when the training is performed in accordance with EN 473 / ISO 9712 the certificate can be issued by independent European certification body **ATG CERT**.

Additional details about training and certification are related to specific needs of client and shall be discussed individually. Please refer section "contacts" or our website www.atgtesting.com.

ET VISUAL TESTING OF WELDS

Code: ET L1 (for Level 1), ET L2 (for Level 2), ET L3 (for Level 3)

Eddy current testing method is used for testing of the electrically conductive materials. This method is applicable in wide scale of branches, very often used for inspections of metallurgic semiproducts during the in-service inspections of pipe type heat exchangers and in aerospace and automotive industry. This method is widely used for surface discontinuities detection. The discontinuities can be detected to specific depth under surface. This method allows measuring thickness of nonconductive coating or selecting the different materials on the base of the difference in the chemical composition or heat treatment.

Based on: EN 10246-1,2,3; DIN 54141; EN 1711; EN 1971; EN 12084; ASME V,8

Used codes: The scope of standards covered by training is specified according to client needs. Basic standards covered by training are usually: US standards (ASME Code V/9; ASME Code VIII) and set of EN and ISO standards (e.g.: EN ISO 5817; EN ISO 17637, EN ISO 6520 etc.)

What you will learn

Participant will be trained in inspection according to applicable codes and specifications, and learn to develop procedures for your applications. The Level 2 certified specialist is responsible for testing and evaluating the findings according to SNT-TC-1A or EN 473 standard. They can develop the NDT instructions and manage ET testing for their workplace.

Level I training highlights

- Basic principles of eddy currents
- Probes and coils
- Practical impedance plane analysis
- Products imperfections and methods for testing
- Bolt and fastener hole inspection
- Eddy current test equipment
- Basic test set circuits
- Parameters for testing
- Testing procedures, calibration blocks

Level II training highlights

- Characteristic / Limit Frequency
- Test frequency ratios
- Testing equipment and tools
- Specialized techniques
- Evaluation of Indications
- Testing procedures
- Instructions and report writing
- Codes and theirs requirements

About certification

The examination and certification process is directly related to qualification system. In case when the training is performed in accordance with EN 473 / ISO 9712 the certificate can be issued by independent European certification body **ATG CERT**.

Additional details about training and certification are related to specific needs of client and shall be discussed individually. Please refer section "contacts" or our website www.atgtesting.com.

LT LEAK TESTING

Code: LT L1 (for Level 1), LT L2 (for Level 2), LT L3 (for Level 3)

Leakage testing is focused on the detection of imperfections in the solid boundary-line, which allow escape of fluids (in presence of the pressure gradient). This method is able to detect imperfections of the base material and its mechanical joints (welded; bonded and soldered joints), failure of metallurgical or technological process and in-service induced imperfections.

Based on: recommended practice SNT-TC-1A. Alternatively we can provide this training course based on EN 473/ISO 9712

Used codes: The scope of standards covered by the training is specified according to client needs. Basic standards covered by the training are usually: EN 1518; EN 1593; EN 1779; EN 13184; EN 13185; EN 13192; EN 13625; ASTM E 515 (bubble method); ASME V/10.

What you will learn

Participants of LT courses have two basic options how to get the qualification: Part A is a must and every onemust be trained in this level. Part B or/and C is optional according to their needs. Training is focused on explanation how to recognize important factors that affects the testing results and helps NDT operator to understand how set-up process parameters to get relevant and accurate test results.

The level 1 training covers theory overview in direct connection to requirements of the relevant standards. This gained knowledge will prepare operator for accurate test performance. Training for Level 2 operators covers additionally detailed overview of relevant evaluation standards. Classroom training is accompanied by evaluation of study cases; and by practical tasks with testing and evaluation of samples.

Training highlights

- Basic principles of physic of gasses
- Vacuum equipment
- Pressure change method
- Bubble method
- Penetration method
- Tracer gas method
- Testing equipment
- Testing procedures, standards

The duration of LT trainings

Part A	32 hours	Basic knowledge
Part B	40 hours	Bubble testing, Pressure change
Part C	40 hours	Mass spectrometer (He detector)

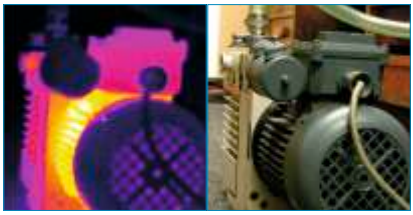
About certification

The examination and certification process is directly related to qualification system. In case when the training is performed in accordance with EN 473 / ISO 9712 the certificate can be issued by independent European certification body **ATG CERT**.

IRT THEROMOGRAPHIC TESTING

Code: IRT L1 (for Level 1), IRT L2 (for Level 2), IRT L3 (for Level 3)

The Thermographic testing is an advanced NDT method capable to detect thermally abnormal behavior. The major applications of IRT are: thermal leakage detection (civil construction survey); electric circuits' survey (detection of malfunction); inspection of rotation machines (plant maintenance), and entrapped water detection (aerospace sector).



Based on: relevant standard is selected according to industrial sector. Alternatively are course based on EN 473/ISO 9712; SNT-TC-1A or on EN 4179/NAS 410.

Used codes: The scope of standards covered by the training is specified according to client needs. For example the training for aerospace covers: ASTM E 2582; NTM Airbus 310, 320 and 330 family; NTM Boeing 737; etc.

What you will learn

Training leads the participants through basic principles of the heat transfer. The understanding of distribution of heat in the material is essential correct interpretation of test results.

The level 1 training covers overview of basic theory. Work with thermal imager (thermo-camera) and image analysis will be practiced. The focus is based on practical performance of IRT image capturing. (e.g. setting of imager, choosing of configuration etc.). Training for Level 2 operators covers additionally rules of image analysis and evaluation. Training will cover also rules for accurate temperature measurement.

Contents of training is strongly influenced by requirements of the customer.

Training highlights

- Thermal imager operation
- Passive IRT technique
- Active IRT technique (Step heat)
- Active technique (Pulse thermography)
- Image analysis and evaluation
- Health Safety and Environment

About certification

The examination and certification process is directly related to qualification system. In case when the training is performed in accordance with EN 473 / ISO 9712 the certificate can be issued by independent European certification body **ATG CERT**.

Additional details about training and certification are related to specific needs of client and shall be discussed individually. Please refer section "contacts" or our website www.atgtesting.com.

PI PLANT INSPECTOR

Code: Plant inspector

Plan inspector course involves the rules for inspection, monitoring, repair, alteration, reconstruction of machinery that have been in-service in power energy industry, oil industry and refineries. Plant inspector courses are offered in the following disciplines:

- API 510 – Pressure vessel inspector
- API 570 – Piping inspector
- API 653 – Storage tank inspector
- Overhead and Gantry Crane inspector

Based on: recommended practice SNT-TC-1A

Used codes: **API 510** – Pressure vessel inspector (ASME Code Section V, VIII, IX) , API codes (API RP 571, 52, 579, 580) ; **API 570** – Piping inspector (ASME Code Section V, IX, ASME B31.3) , API codes (API RP 571, 574, 579, 580); **API 653** – Storage tank inspector (ASME Code Section V, IX) , API codes (API 650, API RP 571, 579, 580); Overhead and Gantry Crane inspector - ASME B30.2, ASME B30.5, ASME B30.10

What you will learn

The participants will be familiar with the material, design, fabrication, erection, and testing requirements; learn the requirements for inspection, repair, alteration, evaluation, and reconstruction of plant parts/equipment.
Emphasis will be placed on safety requirements, suitability for service, plant parts/elements repair, and alteration. Requirements for inspection, NDE examination, inspection planning, and RBI will be provided.

Training highlights

- Safety legislative (pressure equipment, lifts, HSE)
- Special processes having a substantial influence on the plant life (welding, heat treatment, corrosion, painting, ..)
- Relevant diagnostic and inspection methods for maintenance and plant life estimation
- RLA (Residuum Life Assessment)
- RBI (Risk Based Inspection) management and inspection planning
- Methodology of inspection for shop/site inspection, witness audits, recording a protocol

About certification

The examination and certification process is directly related to qualification system. In case when the training is performed in accordance with EN 473 / ISO 9712 the certificate can be issued by independent European certification body **ATG CERT**. Additional details about training and certification are related to specific needs of client and shall be discussed individually. Please refer section "contacts" or our website www.atgtesting.com.

EI ELECTRICAL & INSTRUMENTATION EQUIPMENT

For proper and safe operation of the electrical equipment's life is necessary to perform checks / inspections of electrical equipment and instrumentation. Therefore, it is necessary to manage a revision once a year. For that reason ATG company can provide you electrical & instrumentation expert team at your site as yearly inspections or qualify your staff to become experts in the following topics.

The training of Plant Inspector consists of:

- Visual inspection of completeness & damages, training how quickly and professionally perform the visual inspection.
- Inspections of grounding system including bonding. Visual inspection, types of measurement of grounding systems, marking, connection, etc.
- Inspection of distribution or power transformers.
- Inspection of oil or dry transformers, measurement, auxiliary circuits, installation.
- Inspection of electric motors & generators.
- Visual inspection, measurement, vibration, connection, etc.
- Inspection of LV, MV & HV substations equipment.
  Visual inspection, measurement, protection adjustment, mechanical check, interlocking, etc.
- Inspection of cables. Installation, crossing, bending, clamping, measurement, connecting, etc.
- Inspection of instrumentation. Type of instruments, installation, measurement, calibration, connection. Inspection of ex-proof equipment. Type of ex-proof protection, principle of protection, installation,
  protection of combination, measurement, etc.
- Safety requirements and rules for maintenance of electrical equipment up to 1000V. Principle of safe work on the device over 1000V energized
  and de-energized.x

Sample of qualification certificate

SHOP/SITE THIRD PARTY INSPECTOR

Code: Shop/site inspector

Shop and site inspection for customer or independent assesment of the supply according to given release documents for following industrial sectors:

- power energy industry and pressure equipment
- oil industry and refineries
- pipelines, oil/gas transport
- machinery

Based on: ISO/IEC 17020, production EN codes (EN 13445, 13480 etc), ASME Code, API codes, API RP for maintenance

What you will learn

The participants will be familiar with the procedure of the inspection and the position of the inspector as the representative of the customer or independent party; learn the requirements for inspection, release, evaluation of technical deliveries. Emphasis will be placed on inspection methodology, evaluation of release conditions, the use of contract conditions. Requirements for inspection, NDE examination, inspection planning will be provided.

Level 2 training highlights

- Inspector's role, safety and legislative support
- Metrology
- Quality control plan/quality assurance
- Sampling
- Material characterictis
- Recording/reporting
- Special processes requirements (welding, NDT, heat treatment, corrosion, paiting)
- Methodology of inspection for shop/site inspection, witness audits, recording in a protocol, contract audit

About certification

The examination and certification process is directly related to qualification system. In case when the training is performed in accordance with EN 473 / ISO 9712 the certificate can be issued by independent European certification body **ATG CERT**.

Additional details about training and certification are related to specific needs of client and shall be discussed individually. Please refer section "contacts" or our website www.atgtesting.com.

NDT e NON DESTRUCTIVE TESTING EVALUATION

Code: UT2-e (for UT Levsel 2 – evaluation), MT2-e (for MT Level 2 evaluation); etc.

The training "NDT EVALUATION" is focused on specialists, who do not perform NDT directly, but who are involved in process assessment and who need to be able to understand the evaluation of testing (for example the inspectors who are supervising the NDT testing as "witnesses"). Training helps to the specialist to be able to identify the essential indications of defects and to understand the way of evaluation.

Based on: recommended practice SNT-TC-1A
Used codes: in dependence on selected NDT method, and covered industrial sector

What you will learn

NDT evaluation trainings are focused on the following methods:

- Ultrasonic testing evaluation (UT 2 – evaluation)
- Liquid penetrant testing evaluation (PT 2 – evaluation)
- Magnetic particle testing evaluation (MT 2 – evaluation)
- Eddy current testing evaluation (ET 2 – evaluation)
- Leakage testing evaluation (LT 2 – evaluation)

Radiographic evaluation is supplemented by training RT-FI – Radiographic interpreter.

The scope of training is dependent on the selected NDT method. For example in case of PT 2 – evaluation will be covered following:

Training highlights

- Rules for PT process performance
- Recognition of irrelevant indication
- Acceptance criterion selection
- Basics of indication evaluation
- Procedure in case of revealed non-conformity
- Orientation on relevant standards
- Selection of parameters you "must check"
- Reasons for testing repetiotion
- Procedure in case of revealed non-conformity
- Health Safety and Environment

About certification

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NDT i NON DESTRUCTIVE TESTING INSPECTOR

Code: RT2-i (for RT Level 2 – inspector), UT2-i (for UT Level 2 inspector); etc.

The training "NDT INSPECTOR" is focused on specialists, who do not perform NDT, but who are involved on assessment of testing performing (e.g. reviewing of relevant NDT documentation and NDT reports). Training helps to the specialist to identify the essential variables of NDT process and asses, if actual process parameters are optimal.

Based on: recommended practice SNT-TC-1A
Used codes: in dependence on selected NDT method, and covered industrial sector

What you will learn

NDT inspector trainings are focused on the following methods:

- Radiographic testing inspector (RT 2 – inspector)
- Ultrasonic testing inspector (UT 2 – inspector)
- Liquid penetrant testing inspector (PT 2 – inspector)
- Magnetic particle testing inspector (MT 2 – inspector)
- Eddy current testing inspector (ET 2 – inspector)
- Leakage testing inspector (LT 2 – inspector)

The scope of training is dependent on the selected NDT method. In case of RT 2 – inspector will be covered following:

Training highlights

- RT method limitation
- Rules for source selection
- Rules for selection of optimal configuration
- Image quality assessment
- Assessment of radiographic image
- Basics of evaluation
- Orientation on relevant standards
- Selection of parameters you "must check"
- Procedure in case of revealed non-conformity
- Health Safety and Environment

About certification

The examination and certification process is directly related to qualification system. In case when the training is performed in accordance with EN 473 / ISO 9712 the certificate can be issued by independent European certification body **ATG CERT**.

Additional details about training and certification are related to specific needs of client and shall be discussed individually. Please refer section "contacts" or our website www.atgtesting.com.

CERTIFICATES AND APPROVALS

Sample of certificates issued ATG CERT

Approval: TÜV Nord Czech (EN 473) NRAS (EN 4179/NAS410)

Approval: API - TPCP training provider

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Certification Body ATG CERT

API Certified Training Provider

ISO 9001 BEC certified