SAIW

Southern African Institute of Welding

NON-DESTRUCTIVE TESTING (NDT) COURSES 2026

CONTENTS

PROMOTING WORLD CLASS EXCELLENCE IN WELDING, NON-DESTRUCTIVE TESTING AND ALLIED TECHNOLOGY

The SAIW offers industry developed training programmes, which aim to provide the candidates with the necessary skills to meet industry needs.

Our skills programme is in the process of being registered with the relevant QCTOs, and once registered, may be recognised as part qualifications and contribute credits towards NQF alligned qualifications.

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FOCUSED APPROACH TO 2026 Course Offering

Rationalised number of courses means students should PLAN AHEAD and BOOK TODAY!

The SAIW has rationalised its approach so that although the number of scheduled courses we offer remains exactly the same, the number of times these particular courses are offered through the year has been reduced, to provide a more streamlined offering. In line with this more focused approach, we are therefore proud to launch our courses for 2026!

(SEE THE FULL LIST IN THE TABLE ON THE NEXT PAGE WHICH PROVIDES A CLEAR IDEA OF THE COURSES WE OFFER).

Cost benefit	The cost benefit of this streamlined approach is that a third of our courses have been reduced in price and more than half our course prices have been increased at less than the inflation rate.
Plan ahead	This more streamlined and cost-effective approach means that students need to plan their training schedule for 2026 well in advance and book early to ensure they are in time for their desired course start date next year. **See your options on the next page.**
Non-scheduled & Regional Courses **DEMAND DEPENDENT**	Despite this streamlined approach, the SAIW remains committed to offering scheduled and non-scheduled regional courses in Cape Town and Durban. A minimum of five students is required per course to run. As soon as the minimum number of people have booked in your region, the course will be scheduled.

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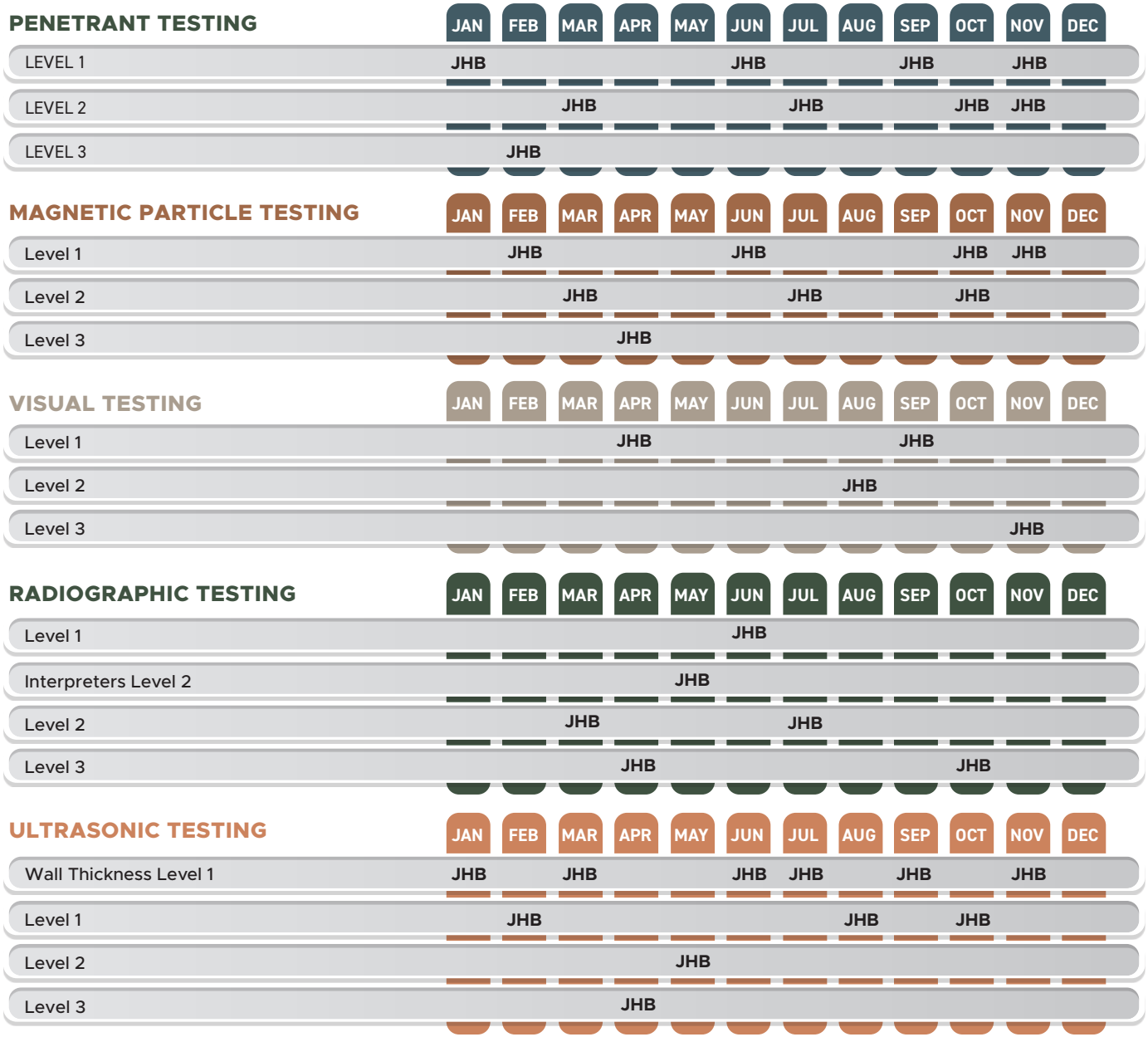
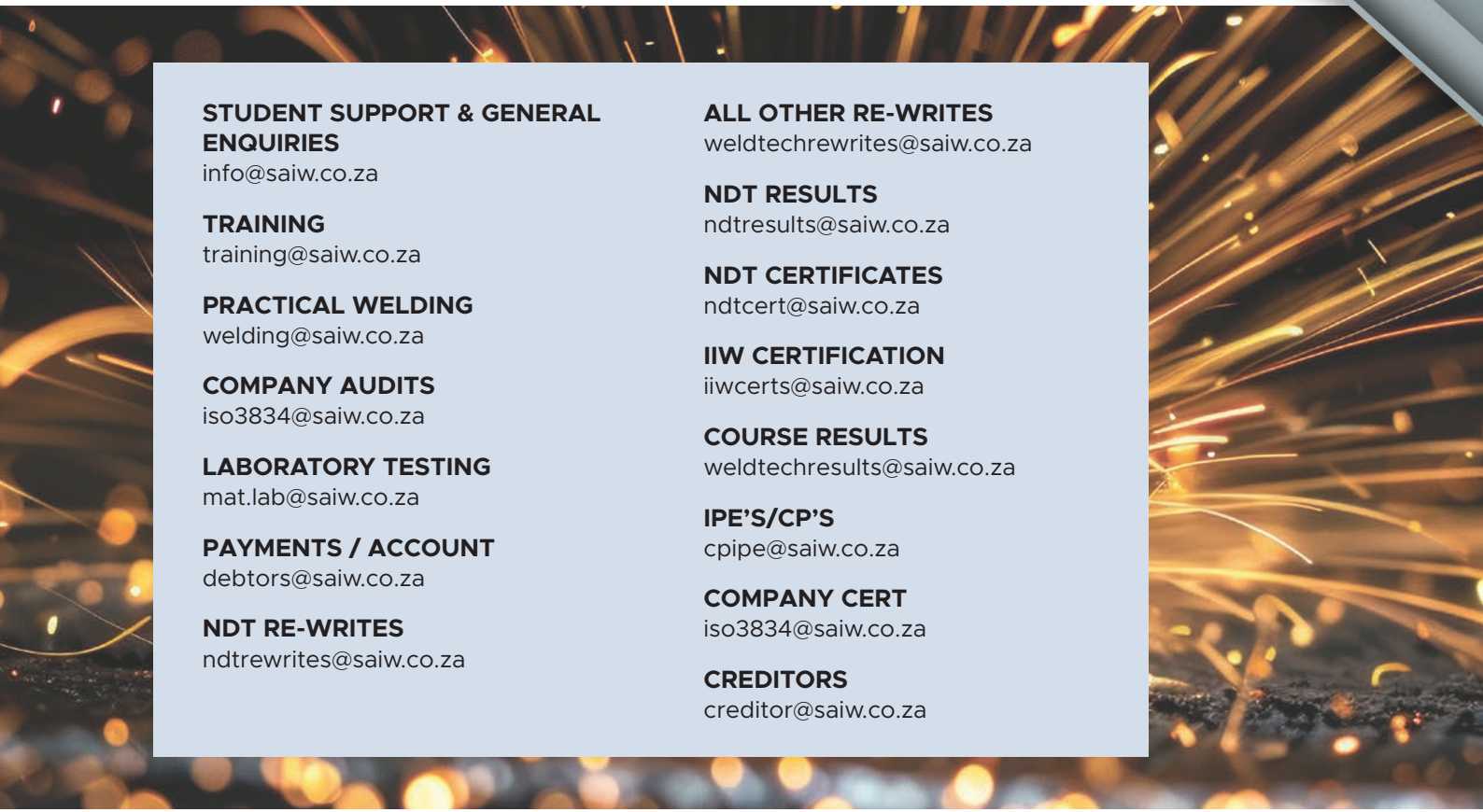
NON-DESTRUCTIVE TESTING (NDT) 2026 COURSE START DATES AT A GLANCE



BOOKINGS & QUERIES

Contact Details



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NDT RESULTS
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NDT CERTIFICATES
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ABOUT Non-Destructive Testing (NDT)

Non-Destructive Testing (NDT) refers to the testing of material and components without inhibiting its further usefulness. Applied scientific principles such as electromagnetic induction, magnetism, capillary action, mechanical vibration, electromagnetic waves, etc. are utilised to identify and characterise discontinuities within tested samples or areas of interest.

Training for NDT is provided by the SAIW in compliance with the ISO/TS 25108 in accordance with the syllabus provided in ISO/TS 25107 (ANSI/ASNT CP 105 as well as IAEA Tecdoc 628 are also incorporated) and recognised by an ISO/IEC 17024 accredited Personnel Certification Body (PCB) under the scope of ISO 9712, i.e. SAIW Certification PCB, which operates the SAIW Certification NDT Scheme.

The SAIW Certification NDT scheme is the very first NDT qualification and certification scheme developed 'in Africa by Africans for Africans' that is registered under the ICNDT Mutual Recognition Agreement (MRA) Schedule 2 through the SAIW Certification Personnel Certification Body (PCB).

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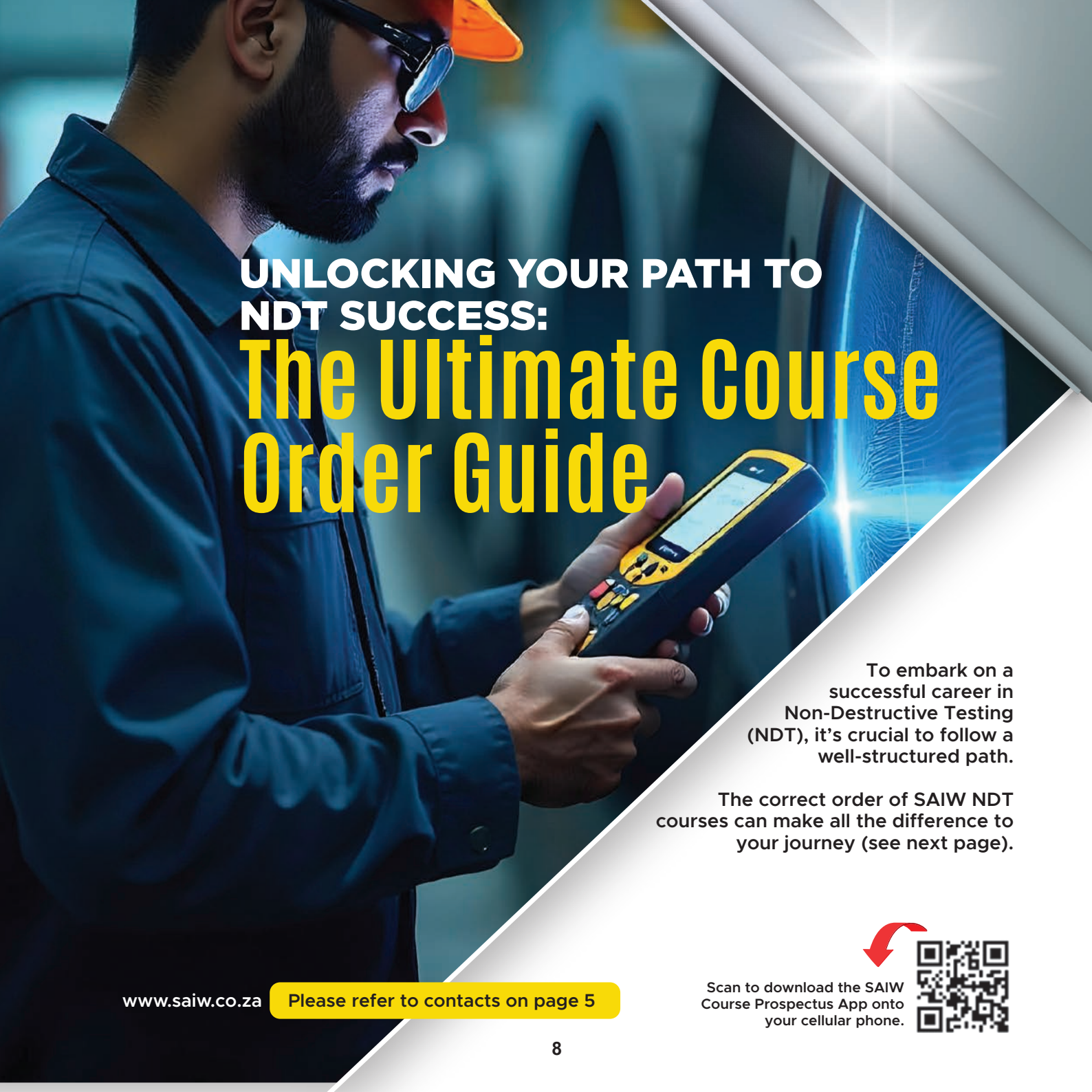
ABOUT
Non-Destructive Testing (NDT)

TRAINING IS SECTOR SPECIFIC AND CAN BE SUBDIVIDED INTO THE FOLLOWING MAIN SECTIONS:

1. Terminology and history
2. Physical principles
3. Product technology and method capabilities
4. Equipment
5. Testing information
6. Testing process
7. Interpretation / evaluation and reporting
8. Assessment
9. Quality Aspects
10. Developments

Assessment quality aspects and developments training, qualification and certification is subdivided into three levels as stipulated by ISO 9712 new issue published in 2021

Level 1	An individual certified to **Level 1** has demonstrated competence to carry out NDT according to written instructions and under the supervision of Level 2 or Level 3 personnel. Level 1 personnel may be authorized to perform the following in accordance with NDT instructions: set up NDT equipment; perform the tests; record and classify the results of the tests according to written criteria; report the results.
Level 2	**Level 2** personnel may be authorized by the employer to perform certain tasks which include: select the NDT technique for the testing method to be used; define the limitations of application of the testing method; translate NDT codes, standards, specifications, and procedures into NDT instructions adapted to the actual working conditions; set up and verify equipment settings; perform and supervise tests; provide guidance for personnel at or below Level 2; report the results of NDT.
Level 3	**Level 3** personnel may be authorized to perform certain tasks which include: assume full responsibility for a test facility or examination centre and staff; interpret standards, codes, specifications, and procedures; carry out and supervise all tasks at all levels; provide guidance for NDT personnel at all levels.



UNLOCKING YOUR PATH TO NDT SUCCESS:

The Ultimate Course Order Guide

To embark on a successful career in Non-Destructive Testing (NDT), it's crucial to follow a well-structured path.

The correct order of SAIW NDT courses can make all the difference to your journey (see next page).

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UNLOCKING YOUR PATH TO NDT SUCCESS:

The Ultimate Course Order Guide

Level 1

Liquid Penetrant Testing (PT) Course	Start with PT, an excellent introductory course that teaches you how to detect surface defects using liquid penetrants.
Magnetic Particle Testing (MT) Course	Next, delve into MT, where you'll learn to identify surface and near-surface flaws using magnetic fields.
Visual Testing (VT) Course	VT enhances your visual inspection skills, a fundamental ability in NDT.
Radiographic Testing (RT) Course including RT Safety	Radiographic testing teaches you to use X-rays and gamma rays to inspect materials. Safety is paramount.
Ultrasonic Testing (UT) WT	UT introduces you to the versatile world of ultrasonic testing, which is invaluable in many industries.
Ultrasonic Testing (UT)	Build on your UT knowledge to become proficient in this widely-used NDT technique.
Eddy Current	Explore Eddy Current testing, which is especially beneficial in the aerospace industry.

These levels represent opportunities for advanced training and specialisation, including becoming a Welding Inspector.

Overall, NDT offers a promising career with above-average pay, global opportunities, and room for growth. Those with NDT expertise have a unique passion for precision and are committed to doing things right. As you progress through these courses and levels, you'll gain the skills and knowledge necessary to become an indispensable part of the industries that rely on NDT for quality assurance including the power generation, petrochemical and mining sectors.

REMEMBER! Your NDT journey is a stepping stone to success, with each course adding to your expertise and career prospects.

WHAT YOU NEED TO BUILD YOUR CAREER IN NON-DESTRUCTIVE TESTING

1 You need to be

ANALYTICAL
INTELLIGENT
HIGH LEVEL ATTENTION TO DETAIL

If you're one of the few people who're good at science & math, and have an enquiring mind, becoming an NDT professional will give you the chance of making a valuable future.

2 Consider yourself

INQUISITIVE
PERSISTENT
INTUITIVE

Being persistent and inquisitive, with a problem-solving attitude, studying SAIW's NDT courses will be your most flexible start to a better future.

3 You must be

AMBITIOUS
MOTIVATED
KEEN

If you're ambitious & motivated, contact the SAIW or visit www.saiw.co.za OR Call 011-298 2100 to enquire about our NDT courses.

4 THEN

You will be able to **EARN WHILE YOU LEARN**

Studying NDT through SAIW means you'll be able to move through all the NDT levels at your own pace and as you can afford to. You'll also be able to earn while you learn, continuing to study as it suits you.

SAIW provides training programmes, consultancy and industry support services to the metal industries in South Africa. The SAIW is active throughout Southern Africa, the Indian Ocean Islands and the Middle East. SAIW qualifications & certifications are regarded as the industry standard in South Africa and enjoy international recognition

Non-Destructive Testing (NDT) is the testing of material or manufactured components without destroying their usefulness. Applying scientific techniques such as electromagnetic induction, magnetism, capillary action, mechanical vibration or electromagnetic waves, and other testing techniques, to identify potential flaws or failures within supplied samples.

SAIW
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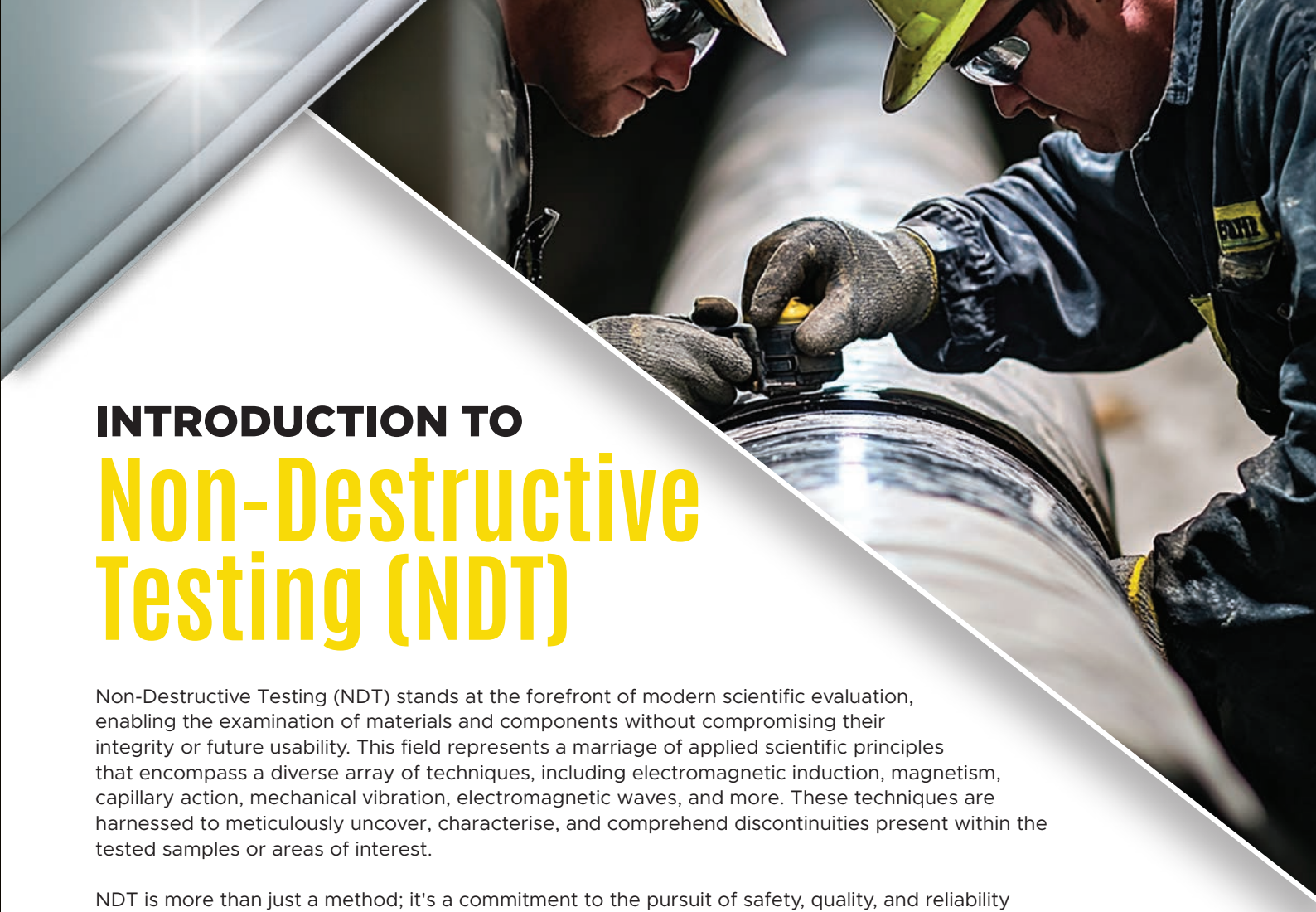
Call 011-298 2100 or visit www.saiw.co.za



INTRODUCTION TO
Non-Destructive Testing (NDT)

Non-Destructive Testing (NDT) stands at the forefront of modern scientific evaluation, enabling the examination of materials and components without compromising their integrity or future usability. This field represents a marriage of applied scientific principles that encompass a diverse array of techniques, including electromagnetic induction, magnetism, capillary action, mechanical vibration, electromagnetic waves, and more. These techniques are harnessed to meticulously uncover, characterise, and comprehend discontinuities present within the tested samples or areas of interest.

NDT is more than just a method; it's a commitment to the pursuit of safety, quality, and reliability across a multitude of industries. It's the means by which hidden flaws are unveiled, structural integrity is assured, and material performance is scrutinised without the need for destructive testing methods. As we delve deeper into this prospectus, we invite you to explore the captivating world of NDT, where science, technology, and innovation converge to ensure the continued success and safety of our modern world.

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TRAINING: NDT Access Conditions

Level 1: MT, VT, PT	Direct access to the course shall be granted if the candidate has passed both mathematics and science in Grade 10 (Proof of Grade 10 – or equivalent such as N1; certificate is required).
Level 1: UT, RT, ECT	Please note that RT Safety is mandatory for access to an RT 1 course and no RT 1 certificate shall be issued unless a RT Safety certificate in accordance with DOH and issued by SAINT Professional Body can be shown. Direct access to the course shall be granted if the candidate has passed both mathematics and science in Grade 12 (Proof of Grade 12 – or equivalent such as N3 certificate is required). Alternatively, the candidate shall be required to pass a Proficiency Exam for surface methods, prior to being eligible to sit the applicable NDT course. Please note that the Proficiency test is free of charge and only assesses the basic skills relating to mathematics, science, comprehension and communication capabilities required within the applicable NDT method. The pass mark for the Proficiency test is 70%.
Level 2: All Methods	Candidate shall be qualified i.e. have received training in accordance with ISO9712 requirements and have passed the Level 1 qualification examinations (certified is preferred) as a Level 1 NDT Technician in the applicable method and sector. Access to advanced / derived techniques requires a valid Level 2 certificate in the relevant method. **DIRECT ACCESS TO LEVEL 2:** Candidate shall have passed both mathematics and science at Grade 12 level (Equivalent to N3 - Proof of Grade 12 certificate is required) and have applicable tertiary qualification(s) and/or relevant NDT experience. Combination of Level 1 and Level 2 Training hours in accordance with an approved syllabus and training programme as per SAIW Certification NDT Scheme requirements and based on Certification body approval. The Level 1 qualification examinations shall also have been successfully passed.
Level 3: All Methods	Candidate shall be qualified i.e. received training in accordance with ISO9712 requirements and have passed the Level 2 qualification examinations (certified is preferred) as a Level 2 NDT Technician in the applicable method and sector, appropriate tertiary qualifications (relevant to the NDT method - chemistry, mathematics or physics; and/or to the product or industry sector - chemistry, metallurgy, engineering etc.) are advantageous. All candidates for Level 3 Certification in any NDT method shall have successfully completed the Level 2 Practical exam. (If not certified as Level 2, the practical examination shall have been passed within 1 year from date of writing the Level 3 main method examination). Valid Level 2 Certificate in the applicable method and sector is mandatory when equipment operation or accepting tested components are required. **DIRECT ACCESS TO LEVEL 3:** Combination of Level 1, 2 and 3 Training hours in accordance with an approved syllabus and training program as per ISO 9712 and SAIW Certification NDT Scheme requirements and based on Certification body verification. The Level 2 qualification examinations shall also have been successfully passed. No reduction in requirements for industrial experience. Suitable tertiary qualifications (relevant to the NDT method - chemistry, mathematics or physics; and / or to the product or industry sector - chemistry, metallurgy, engineering etc.) are mandatory.

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Penetrant Testing

Course Information

Penetrant Testing (PT), also known as Liquid Penetrant Testing, is a highly versatile surface-based non-destructive testing (NDT) method. This technique employs a liquid containing a coloured dye, enhancing its visibility, to infiltrate and fill any open voids on the surface through capillary action. Once the excess penetrant is meticulously removed from the surface, a developer substance is applied. This developer acts as a contrasting medium, facilitating the migration of the penetrant from within the defects. Consequently, any discontinuities or flaws become prominently visible against the contrasting background, typically a white powder.

One of the remarkable attributes of PT is its applicability across a wide range of materials, provided that the discontinuity of interest is accessible from the surface. If you possess an affinity for chemistry, particularly the interplay of liquids, and find fascination in precision work that goes beyond swimming or indulging in the occasional beverage, then Penetrant Testing offers a fulfilling career path.

The effectiveness of PT is influenced by several factors, including the type of dye used (whether it's designed for normal light or backlight conditions, or both), the specific penetrant employed, the method used to remove excess penetrant, and the developer chosen for the testing process. Additionally, PT techniques must adapt to extreme temperatures, as variations in temperature can affect liquid properties such as viscosity and evaporation. Specialised techniques are employed in cases of excessively high or low temperatures to ensure accurate and reliable results.

Embarking on a career in PT allows you to explore the fascinating intersection of chemistry, materials science, and meticulous precision, making it one of the fundamental and indispensable NDT methods in various industries.

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Penetrant Testing

If you enjoyed chemistry at school and your interest in liquids exceeds that of swimming and the occasional beer, then we invite you to start your career in one of the most basic yet useful NDT methods.

Inspection techniques depend on whether the dye used is under normal light or backlight conditions (or both), the type of penetrant, excess penetrant removal process as well as developer used during testing. Furthermore, since temperature has an effect on the liquid properties, such as viscosity and evaporation, special techniques are applicable at excessively high and low temperatures.

The training course is based on general theory as well as sector specific applications relating, but not limited to, the following standards and specifications:

- ASME Boiler & Pressure Vessel Code - Section V - Subsection A - Article 1 & 6
- ASME Boiler & Pressure Vessel Code - Section V - Subsection B - Article 24
- ISO 3452 Part 1 PT – General Principals
- ISO 3452 Part 2 PT – Testing of penetrant materials
- ISO 3452 Part 3 PT – Reference test blocks
- ISO 3452 Part 4 PT – Equipment
- ISO 3452 Part 5 PT – Testing at temperatures > 50 °C
- ISO 3452 Part 6 PT – Testing at temperatures < 10 °C
- ISO 12706 PT – Vocabulary
- ISO 23277 PT – Acceptance Levels

PENETRANT TESTING - SAIW CERTIFICATION NDT SCHEME (ISO 9712) | NON-DESTRUCTIVE TESTING - SURFACE METHODS

NDT Method and Level	Industrial Sector	Product Sector / Category	Duration 1 day = 8 hours	Prices (Inclusive of VAT)			Course & Initial Exam Dates				
				Training & Initial Examination Non-Corporate Members	Training & Initial Examination Corporate Members	Initial Certification					
Penetrant Testing Level 1	Pre- and in-service	PT 1.1 Forging (f) PT 1.2 Castings (c) PT 1.3 Welds (w)	Training 4 days Exam 1 day	**R 17 066**	**R 15 900**	**R 2 650**	**Course Code**	**PT 1 A JHB 01**	**PT 1 A JHB 02**	**PT 1 A JHB 03**	**PT 1 A JHB 04**
							Training	19-22 Jan	08-11 Jun	14-17 Sep	23-26 Nov
							Exam	23 Jan	12 Jun	18 Sep	27 Nov
Penetrant Testing Level 2	Pre- and in-service	PT 2.1 Forging (f) PT 2.2 Castings (c) PT 2.3 Welds (w)	Training 4 days Exam 1 day	**R 17 066**	**R 15 900**	**R 2 650**	**Course Code**	**PT 2 A JHB 01**	**PT 2 A JHB 02**	**PT 2 A JHB 03**	
							Training	23-26 Mar	06-09 Jul	02-05 Nov	
							Exam	27 Mar	10 Jul	06 Nov	

*Prices subject to change

Magnetic Particle Testing

Course Information

Magnetic Particle Testing (MT) is a surface and shallow subsurface non-destructive testing (NDT) method that leverages the inherent magnetic properties of materials to uncover surface flaws and significant indications just beneath the surface. The material being tested must possess magnetic qualities, allowing magnetic fields to be either generated within or passed through it. Consequently, MT is primarily applicable to ferromagnetic materials, characterized by having a magnetic permeability significantly greater than 1.

If you have a keen interest in magnetism and are intrigued by the utilization of magnetic fields to identify discontinuities within ferromagnetic materials, Magnetic Particle Testing is the ideal starting point for your NDT career journey.

The techniques employed in MT vary depending on several factors, including the type of current utilised for magnetisation, whether the excitation current is maintained during the application of magnetic particles, and the nature of the magnetic field generated – whether it is linear or circular. Additionally, the method description should encompass details about the specific type of magnetic particles employed to render the indications visible, further enhancing the precision and effectiveness of the testing process.

Embracing MT as your chosen NDT path will immerse you in the captivating realm of magnetism, offering a unique perspective on how magnetic fields are harnessed to detect flaws and discontinuities in ferromagnetic materials – a skill set highly sought after in various industries where material integrity and safety are paramount.

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Magnetic Particle Testing

If you are interested in magnetism and would like to find out how magnetic fields are used to detect discontinuities in ferromagnetic material then Magnetic Particle Testing is the place to start your career in NDT.

Inspection techniques depend on the type of current being used to magnetise the material, whether the excitation current is maintained during the application of magnetic particles or not as well as the nature of the magnetic field generated i.e. linear or circular. In addition the technique description should also refer to the type of magnetic particles used to make indications visible.

The training course is based on general theory as well as sector specific applications relating, but not limited to, the following standards and specifications:

- ASME Boiler & Pressure Vessel Code - Section V - Subsection A - Article 1 & 7
- ASME Boiler & Pressure Vessel Code - Section V - Subsection B - Article 25
- ISO 9934 Part 1 MT – General Principals
- ISO 9934 Part 2 MT – Detection media
- ISO 9934 Part 3 MT – Equipment
- ISO 12707 MT - Vocabulary
- ISO 17638 MT – Welds
- ISO 4986 MT – Castings
- ISO 23278 MT – Acceptance Levels

MAGNETIC PARTICAL TESTING - SAIW CERTIFICATION NDT SCHEME (ISO 9712) | NON-DESTRUCTIVE TESTING - SURFACE METHODS

NDT Method and Level	Industrial Sector	Product Sector / Category	Duration 1 day = 8 hours	Prices (Inclusive of VAT)			Course & Initial Exam Dates				
				Training & Initial Examination Non-Corporate Members	Training & Initial Examination Corporate Members	Initial Certification					
Magnetic Testing Level 1	Pre- and in-service	MT 1.1 Forging (f) MT 1.2 Castings (c) MT 1.3 Welds (w)	Training 4 days Exam 1 day	**R 17 066**	**R 15 900**	**R 2 650**	**Course Code**	**MT 1 A JHB 01**	**MT 1 A JHB 02**	**MT 1 A JHB 03**	**MT 1 A JHB 04**
							Training	09-12 Feb	22-25 Jun	12-15 Oct	16-19 Nov
							Exam	13 Feb	26 Jun	16 Oct	20 Nov
Magnetic Testing Level 2	Pre- and in-service	MT 2.1 Forging (f) MT 2.2 Castings (c) MT 2.3 Welds (w)	Training 4 days Exam 1 day	**R 17 066**	**R 15 900**	**R 2 650**	**Course Code**	**MT 2 A JHB 01**	**MT 2 A JHB 02**	**MT 2 A JHB 03**	
							Training	02-05 Mar	13-16 Jul	19-22 Oct	
							Exam	06 Mar	17 Jul	23 Oct	

*Prices subject to change

Visual Testing

Course Information

Visual Testing (VT) stands out as one of the simplest yet most widely employed non-destructive testing (NDT) methods in use today. VT often takes precedence as the initial inspection step for any component or environment, as it necessitates direct observation of the area under scrutiny. This method primarily focuses on surface inspection, making it an essential tool in the NDT toolkit.

VT harnesses the power of visible light, falling within the 390 to 700 nm range of the electromagnetic spectrum, and its interaction with solid surfaces. This interaction allows for the detection of surface indications that are open and unobstructed, free from any foreign materials or debris. In essence, what is visible to the eye corresponds directly to what can be detected.

If your high school experiences with lenses and mirrors piqued your interest, or if the intrigue of lasers has captivated your imagination, then an exploration of the fundamental realm of NDT through Visual Testing is an invitation to embark on a journey that may transform you into the modern-day 'Sherlock Holmes' of visual inspection specialists—the most iconic of all times.

The VT Method encompasses three primary techniques, each tailored to the accessibility of the surface and the nature of the material being examined. These techniques include direct, indirect, and translucent methods, offering a versatile array of approaches to suit various testing scenarios.

Pursuing a course in VT not only introduces you to the foundational NDT method but also equips you with the skills and knowledge needed to meticulously examine and uncover hidden details, making it a vital discipline in ensuring the integrity and safety of critical components in numerous industries.

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Visual Testing

If you enjoyed working with lenses and mirrors in high school and if lasers fascinates you, then you are invited to attend a course in the most basic of all NDT methods and challenge you to become the next 'Sherlock Holmes' – certainly the most famous 'visual testing specialist' of all times.

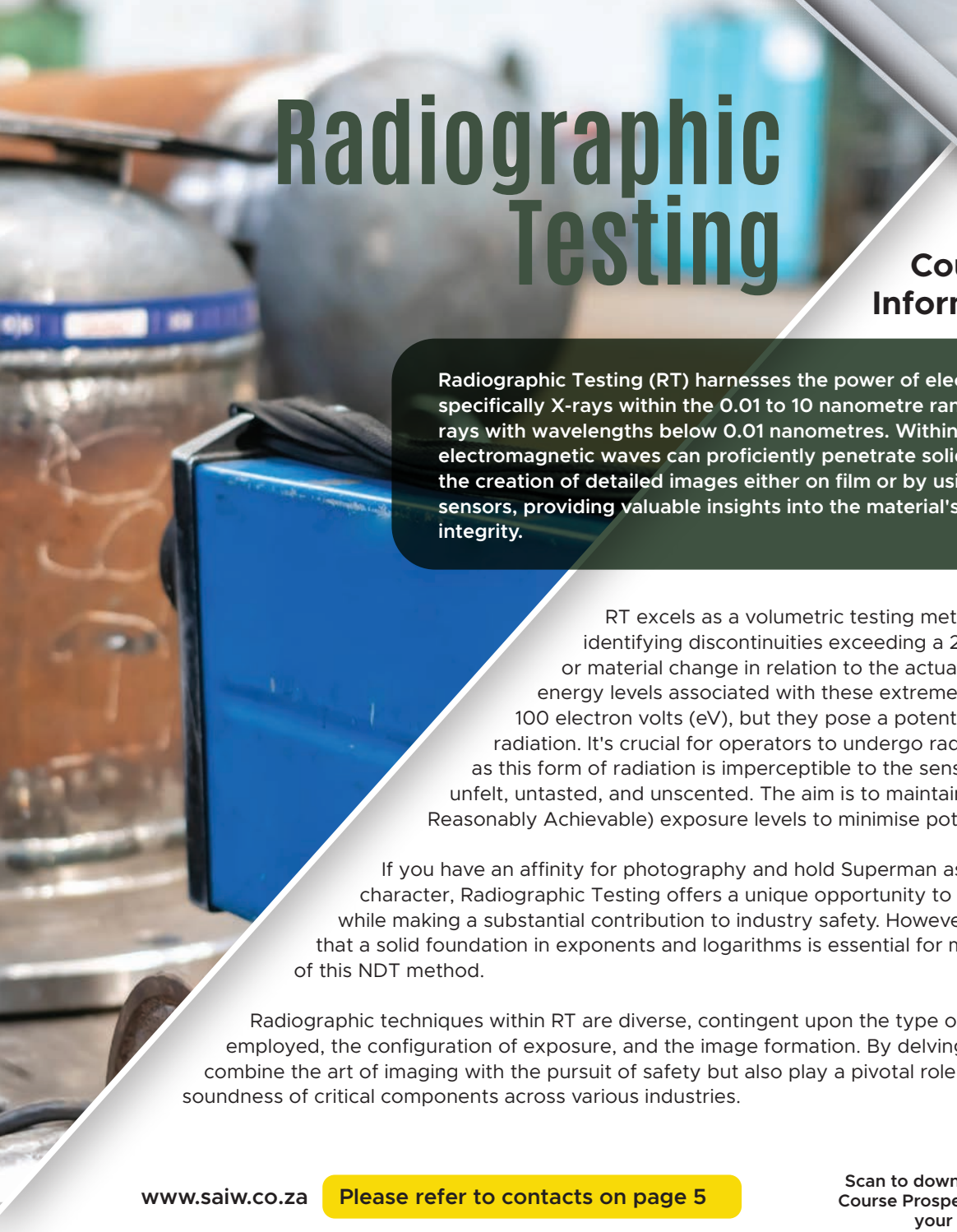
The Visual Testing method can be divided into three main techniques depending on the access to the surface. The techniques are direct, indirect and translucent and depend on the type of material to be tested.

The training course is based on general theory as well as sector specific applications relating, but not limited to, the following standards and specifications:

- ASME Boiler & Pressure Vessel Code - Section V - Subsection A - Article 1 & 9
- ISO 3058 VT – Low power magnifiers
- ISO 8785 VT – Geometrical product specifications
- ISO 13385 Part 1 VT – Geometrical product specifications : Callipers
- ISO 13385 Part 2 VT – Geometrical product specifications : Calliper depth gauges
- ISO 11971 VT – Castings
- ISO 17637 VT – Welds

VISUAL TESTING - SAIW CERTIFICATION NDT SCHEME (ISO 9712) | NON-DESTRUCTIVE TESTING - SURFACE METHODS									
NDT Method and Level	**Industrial Sector**	**Product Sector / Category**	**Duration 1 day = 8 hours**	**Prices (Inclusive of VAT)**			**Course & Initial Exam Dates**		
				Training & Initial Examination Non-Corporate Members	**Training & Initial Examination Corporate Members**	**Initial Certification**			
Visual Testing Level 1	Pre- and in-service	VT 1.1 Forging (f) VT 1.2 Castings (c) VT 1.3 Welds (w)	Training 4 days Exam 1 day	**R 17 066**	**R 15 900**	**R 2 650**	**Course Code**	**VT 1 A JHB 01**	**VT 1 A JHB 02**
							Training	13-16 Apr	28 Sep - 01 Oct
							Exam	17 Apr	02 Oct
Visual Testing Level 2	Pre- and in-service	VT 2.1 Forging (f) VT 2.2 Castings (c) VT 2.3 Welds (w)	Training 4 days Exam 1 day	**R 17 066**	**R 15 900**	**R 2 650**	**Course Code**	**VT 2 A JHB 01**	
							Training	17-20 Aug	
							Exam	21 Aug	

*Prices subject to change



Radiographic Testing

Course Information

Radiographic Testing (RT) harnesses the power of electromagnetic waves, specifically X-rays within the 0.01 to 10 nanometre range or Gamma-rays with wavelengths below 0.01 nanometres. Within these ranges, electromagnetic waves can proficiently penetrate solid materials, enabling the creation of detailed images either on film or by using electromagnetic sensors, providing valuable insights into the material's composition and integrity.

RT excels as a volumetric testing method, capable of identifying discontinuities exceeding a 2% cross-sectional void or material change in relation to the actual beam orientation. The energy levels associated with these extremely short waves exceed 100 electron volts (eV), but they pose a potential risk due to ionising radiation. It's crucial for operators to undergo radiation safety training, as this form of radiation is imperceptible to the senses – unseen, unheard, unfelt, untasted, and unscented. The aim is to maintain ALARA (As Low As Reasonably Achievable) exposure levels to minimise potential harm.

If you have an affinity for photography and hold Superman as your favourite DC character, Radiographic Testing offers a unique opportunity to explore your interests while making a substantial contribution to industry safety. However, it's essential to note that a solid foundation in exponents and logarithms is essential for mastering the intricacies of this NDT method.

Radiographic techniques within RT are diverse, contingent upon the type of electromagnetic wave employed, the configuration of exposure, and the image formation. By delving into RT, you not only combine the art of imaging with the pursuit of safety but also play a pivotal role in ensuring the structural soundness of critical components across various industries.

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Radiographic Testing

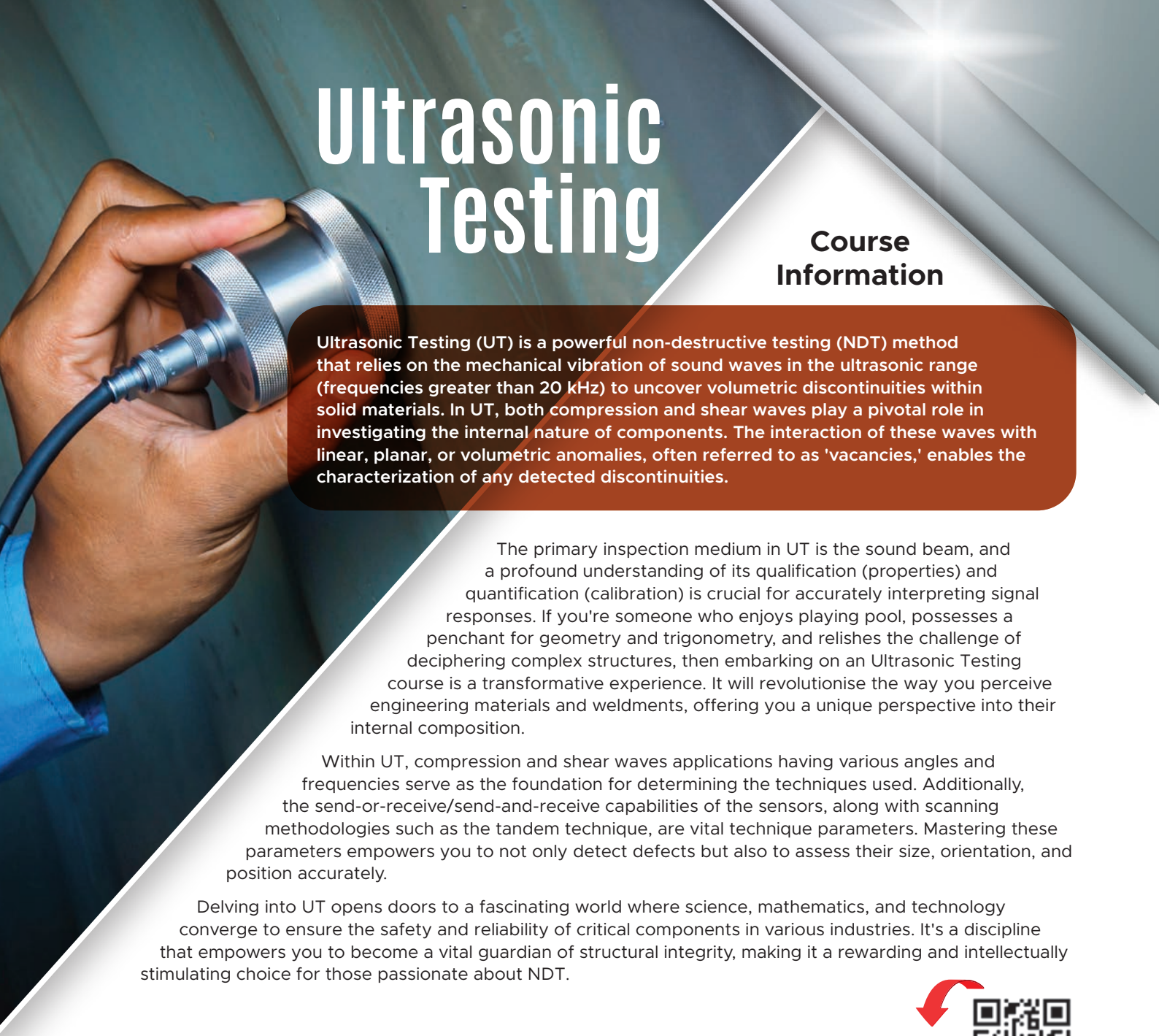
The training course is based on general theory as well as sector specific applications relating, but not limited to, the following standards and specifications:

- ASME Boiler & Pressure Vessel Code - Section V - Subsection A - Article 1 & 2
- ASME Boiler & Pressure Vessel Code - Section V - Subsection B - Article 22
- ISO 10675 Part 1 & 2 RT - Acceptance levels
- ISO 17636-1 RT - X and gamma ray techniques
- ISO 19232 Parts 1 to 5 RT – Image quality of radiographs
- ISO 11699 Parts 1 & 2 RT – Industrial radiographic films
- ISO 5580 RT – Metallic materials using X- or gamma rays Basic rules
- ISO 5576 RT – Vocabulary

Details of specific codes utilised in the limited (RT 2.Int) as well as derived or advanced techniques courses (RT 2.9) can be found in the relevant training documents.

RADIOGRAPHIC TESTING - SAIW CERTIFICATION NDT SCHEME (ISO 9712) | NON-DESTRUCTIVE TESTING - VOLUMETRIC METHODS								
NDT Method and Level	**Industrial Sector**	**Product Sector / Category**	**Duration 1 day = 8 hours**	**Prices (Inclusive of VAT)**			**Course & Initial Exam Dates**	
				Training & Initial Examination Non-Corporate Members	**Training & Initial Examination Corporate Members**	**Initial Certification**		
Radiographic Testing Level 1 + RT Safety	Pre- and in-service	RT 1.5 X-Ray of Dense Alloy Welds RT 1.6 Gamma-Ray of Dense Alloy Welds	Training 15 days Exam 3 days	**R 49 078**	**R 45 368**	**R 2 650**	**Course Code**	**RT 1 A JHB 01**
							Training	22 Jun - 10 Jul
							Exam	13-15 Jul
LIMITED Radiographic Interpreters Level 2	Pre- and in-service	Film Interpretation of Dense Alloy Welds Only (No operational RT)	Training 9 days Exam 1 day	**R 30 316**	**R 28 090**	**R 2 650**	**Course Code**	**RT 2 INT JHB 01**
							Training	04-14 May
							Exam	15 May
Radiographic Testing Level 2	Pre- and in-service	RT 2.5 X-Ray of Dense Alloy Welds RT 2.6 Gamma-Ray of dense Alloy Welds	Training 10 days Exam 3 days	**R 40 704**	**R 37 630**	**R 2 650**	**Course Code**	**RT 2 A JHB 01**
							Training	20-31 Jul
							Exam	03-07 Aug
*** other categories available on request and subject to demand. [1] RT 2 A CERTIFICATION IS REQUIRED AS PREREQUISITE**								

*Prices subject to change



Ultrasonic Testing

Course Information

Ultrasonic Testing (UT) is a powerful non-destructive testing (NDT) method that relies on the mechanical vibration of sound waves in the ultrasonic range (frequencies greater than 20 kHz) to uncover volumetric discontinuities within solid materials. In UT, both compression and shear waves play a pivotal role in investigating the internal nature of components. The interaction of these waves with linear, planar, or volumetric anomalies, often referred to as 'vacancies,' enables the characterization of any detected discontinuities.

The primary inspection medium in UT is the sound beam, and a profound understanding of its qualification (properties) and quantification (calibration) is crucial for accurately interpreting signal responses. If you're someone who enjoys playing pool, possesses a penchant for geometry and trigonometry, and relishes the challenge of deciphering complex structures, then embarking on an Ultrasonic Testing course is a transformative experience. It will revolutionise the way you perceive engineering materials and weldments, offering you a unique perspective into their internal composition.

Within UT, compression and shear waves applications having various angles and frequencies serve as the foundation for determining the techniques used. Additionally, the send-or-receive/send-and-receive capabilities of the sensors, along with scanning methodologies such as the tandem technique, are vital technique parameters. Mastering these parameters empowers you to not only detect defects but also to assess their size, orientation, and position accurately.

Delving into UT opens doors to a fascinating world where science, mathematics, and technology converge to ensure the safety and reliability of critical components in various industries. It's a discipline that empowers you to become a vital guardian of structural integrity, making it a rewarding and intellectually stimulating choice for those passionate about NDT.

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Ultrasonic Testing

The training course is based on general theory as well as sector specific applications relating, but not limited to, the following standards and specifications:

- ASME Boiler & Pressure Vessel Code - Section V - Subsection A - Article 1, 4 & 5
- ASME Boiler & Pressure Vessel Code - Section V - Subsection B - Article 23
- ISO 16810 UT – General Principles
- ISO 11666 UT – Acceptance Levels
- ISO 17640 UT – Techniques, Testing levels and assessment
- ISO 23279 UT – Characterisation of discontinuities in welds
- ISO 5577 UT – Vocabulary
- ISO 18175 UT – Performance characteristics (no electronic instruments)
- ISO 16827 UT – Characterisation and sizing of discontinuities
- ISO 16826 UT – Discontinuities perpendicular to the surface
- ISO 16811 UT – Sensitivity and range
- ISO 12710 UT – Evaluating electronic characteristics of UT instruments
- ISO 10375 UT – Characterisation of search unit and sound field
- ISO 7963 UT – Calibration block No 2
- ISO 4992 Parts 1 & 2 UT – Steel castings
- ISO 2400 UT – Calibration block No 1
- ISO 22232 Parts 1/3 UT – Equipment characterisation

Details of specific codes utilised in the limited (UT 1.WT) as well as derived or advanced techniques courses (UT 2.7; 2.8; 2.9; 2.10 and 2.11) can be found in the relevant training documents.

Ultrasonic Testing

ULTRASONIC TESTING - SAIW CERTIFICATION NDT SCHEME (ISO 9712) | NON-DESTRUCTIVE TESTING - VOLUMETRIC METHODS

NDT Method and Level	Industrial Sector	Product Sector / Category	Duration 1 day = 8 hours	Prices (Inclusive of VAT)			Course & Initial Exam Dates						
				Training & Initial Examination Non-Corporate Members	Training & Initial Examination Corporate Members	Initial Certification							
LIMITED Ultrasonic Testing Level 1 Limited – Wall Thickness	Pre- and in-service	Limited to wall thickness measurement using compression probe only	Training 4 days Exam 1 day	**R 17 066**	**R 15 900**	**R 2 650**	**Course Code**	**UT 1 WT JHB 01**	**UT 1 WT JHB 02**	**UT 1 WT JHB 03**	**UT 1 WT JHB 04**	**UT 1 WT JHB 05**	**UT 1 WT JHB 06**
							Training	26-29 Jan	23-26 Mar	01-04 Jun	27-30 Jul	07-10 Sep	02-05 Nov
							Exam	30 Jan	27 Mar	05 Jun	31 Jul	11 Sep	06 Nov
Ultrasonic Testing Level 1	Pre- and in-service	UT 1.1 Wrought Product/ Forgings UT 1.2 Castings UT 1.3 Butt Welds in Plate UT 1.4 Butt Welds in Pipe	Training 12 days Exam 3 days	**R 40 704**	**R 37 630**	**R 2 650**	**Course Code**	**UT 1 A JHB 01**	**UT 1 A JHB 02**	**UT 1 A JHB 03**			
							Training	23 Feb-10 Mar	24Aug - 08 Sep	12-27 Oct			
							Exam	11-13 Mar	09-11 Sep	28-30 Oct			
Ultrasonic Testing Level 2	Pre- and in-service	UT 2.1 Wrought Product/ Forgings UT 2.2 Castings UT 2.3 Butt Welds in Plate UT 2.4 Butt Welds in Pipe UT 2.5 T-joints & other configurations UT 2.6 Nozzles	Training 12 days Exam 3 days	**R 40 704**	**R 37 630**	**R 2 650**	**Course Code**	**UT 2 A JHB 01**					
							Training	11-27 May					
							Exam	28-29 May					
AD-VANCED	Pre- and in-service	UT 2.10 Ultrasonic Phased Array	Training 12 days Exam 5 days	**R 44 202**	**R 40 916**	**R 2 650**	Please refer to our website for updates relating to advanced / derived techniques.						

PLEASE NOTE: ADVANCED OPTIONS UT 2.8 - CRITICAL FLAW SIZING: UT 2.9 - AUSTENITIC STAINLESS STEEL AND UT 2.11 - TIME OF FLIGHT DIFFRACTION ARE AVAILABLE ON REQUEST AND SUBJECT TO DEMAND. [1] UT 2 A CERTIFICATION IS REQUIRED AS PREREQUISITE

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Eddy Current Testing

Course Information

Eddy Current Testing (ECT) is a highly effective electromagnetic testing method that leverages electromagnetic induction to detect and assess discontinuities in materials. A fundamental prerequisite for eddy current testing is that the material being examined, or in the case of paint thickness measurement, the substrate, must be electrically conductive.

ECT serves as a versatile testing method, offering both surface and subsurface inspection capabilities. The depth to which inspections can be carried out effectively hinges on several factors, including the frequency of the excitation current, the electrical conductivity, and the magnetic properties of the material under scrutiny. While this may seem complex, it all boils down to principles you may recall from your high school lessons on electrical transformers.

If the world of electromagnetic induction intrigues you, dust off your high school knowledge and embark on an ECT course. It's a journey that promises to deepen your understanding and expertise in this captivating field.

Eddy current testing techniques are adaptable, depending on the nature of the sample being tested, be it a flat surface, tube, bar, or more intricate shapes. The choice of probe is influenced by this, and it plays a pivotal role in the testing process. Additionally, the utilisation of multiple frequencies and inspection modes, such as absolute or differential, determines the specific multi-frequency and/or mode techniques used.

The presence of factors like magnetic saturation, weak magnetic alloys, shielding, or the focusing nature of the probe, as well as the capabilities of the display system, contribute to the comprehensive description of eddy current testing techniques. By delving into ECT, you're not only exploring the intriguing world of electromagnetic induction but also contributing to the safety and quality assurance of materials in various industries.

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Eddy Current Testing

If this sounds like a mouthful, then we invite you to dust off your high school knowledge regarding electrical transformers and attend an ECT course.

The techniques utilised in eddy current testing depends on the sample being tested, i.e. whether it is a surface, tube, bar or other more complex shapes since it dictates the type of probe to be used. Furthermore, the number of frequencies and the inspection mode(s), such as absolute or differential, determines the multi- frequency and / or mode technique description. The presence of magnetic saturation, weak magnetic alloys, shielding or focussing nature of the probe as well as the display capabilities extends the technique description.

The training course is based on general theory as well as sector specific applications relating, but not limited to, the following standards and specifications:

- ASME Boiler & Pressure Vessel Code - Section V - Subsection A - Article 1 & 8
- ASME Boiler & Pressure Vessel Code - Section V - Subsection B - Article 26
- ISO 15549 ECT – General principles
- ISO 15548 Part 1 ECT – Instrument Characteristics and verification
- ISO 15548 Part 2 ECT – Probe Characteristics and verification
- ISO 15548 Part 3 ECT – System Characteristics and verification
- ISO 17643 ECT – Welds
- ISO 2360 ECT - Non-Conductive coatings – Amplitude sensitive equipment
- ISO 21968 ECT - Non-Conductive coatings – Phase sensitive equipment
- ISO 12718 ECT - Vocabulary

EDDY CURRENT TESTING – SAIW Certification ndt scheme (iso 9712) non-destructive testing – surface method

NDT Method and Level	Industrial Sector	Product Sector / Category	Duration 1 day = 8 hours	Prices (Inclusive of VAT)			Course & Initial Exam Dates		
				Training & Initial Examination Non-Corporate Members	Training & Initial Examination Corporate Members	Initial Certification			
Eddy Current Testing Level 1	Pre- and in-service	ECT 1.1: Surface (s) ECT 1.2: Tubes (t)	Training 4 days Exam 1 day	ECT 1.1 **R 17 066** ECT 1.2 **R 17 066**	ECT 1.1 **R 15 900** ECT 1.2 **R 15 900**	ECT 1.1 **R 2 650** ECT 1.1 **R 2 650**	**Course Code**	**ECT 1.1 JHB 01**	**ECT 1.2 JHB 01**
							Training	On request	
							Exam		
Eddy Current Testing Level 2	Pre- and in-service	ECT 2.1: Surface (s) ECT 2.2: Tubes (t)	Training 4 days Exam 1 day	ECT 2.1 **R 17 066** ECT 122 **R 17 066**	ECT 2.1 **R 15 900** ECT 2.2 **R 15 900**	ECT 2.1 **R 2 650** ECT 2.1 **R 2 650**	**Course Code**	**ECT 2.1 JHB 01**	**ECT 2.2 JHB 01**
							Training	On request	
							Exam		

*Prices subject to change

NDT Level 3

NON-DESTRUCTIVE TESTING – LEVEL 3 – BASIC & MAIN METHODS | SAIW CERTIFICATION NDT Level 3 – ISO 9712								
NDT Method and Level	**Industrial Sector**	**Product Sector / Category**	**Duration** **1 day = 8 hours**	**Prices (Inclusive of VAT)**			**Course & Initial Exam Dates**	
				Training & Initial Examination Non-Corporate Members	**Training & Initial Examination Corporate Members**	**Initial Certification**		
NDT Level 3: Basic	Pre- and in-service	Part A: Materials & Processes Part B: Qual & Cert Schemes Part C: NDT Level 2	Training 10 days Exam 1 day	**R 30 740**	**R 30 104**	**R 2 650**	**Course Code**	**NDT 3 A JHB 01**
							Training	26 Jan - 06 Feb
							Exam	09 Feb
Magnetic Testing: Level 3 (Main Method)	Pre- and in-service	Part D: (Gen) + Parts E1 & E2 (Specific + codes) + Part F (Procedure) Forgings (f), Castings (c) & Welds (w)	Training 5 days Exam 2 days	**R 22 790**	**R 21 094**	**R 2 650**	**Course Code**	**MT 3 A HB 01**
							Training	13-17 Apr
							Exam	20-21 Apr
Penetrant Testing: Level 3 (Main Method)	Pre- and in-service	Part D: (Gen) + Parts E1 & E2 (Specific + codes) + Part F (Procedure) Forgings (f), Castings (c) & Welds (w)	Training 5 days Exam 2 days	**R 22 790**	**R 21 094**	**R 2 650**	**Course Code**	**PT 3 A JHB 01**
							Training	19-20 Feb
							Exam	23-24 Feb
Radiographic Testing: Level 3 (Main Method)	Pre- and in-service	Part D: (Gen) + Parts E1 & E2 (Specific + codes) + Part F (Procedure) Welds in Dense Alloys: X and Gamma	Training 5 days Exam 2 days	**R 22 790**	**R 21 094**	**R 2 650**	**Course Code**	**RT 3 A JHB 01**
							Training	05-09 Oct
							Exam	12-13 Oct
Ultrasonic Testing: Level 3 (Main Method)	Pre- and in-service	Part D: (Gen) + Parts E1 & E2 (Specific + codes) + Part F (Procedure) Forgings (f), Castings (c) & Welds (w) - all categories	Training 5 days Exam 2 days	**R 22 790**	**R 21 094**	**R 2 650**	**Course Code**	**UT 3 A JHB 01**
							Training	01-05 Jun
							Exam	08-09 Jun
PLEASE NOTE: Eddy Current TESTING & VISUAL TESTING LEVEL 3 ARE AVAILABLE ON REQUEST AND SUBJECT TO DEMAND.								

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