SAIW reintroduced Level 3 NDT courses to its offering

Lemogang Maclean, SAIW's Acting Training and Technical Manager, explains why the SAIW has reintroduced Level 3 NDT courses in Visual, Liquid Penetrant, Magnetic Particle, Ulrasonic and Radiographic Testing for 2026, motivated by the increasing need to secure the safety and integrity of new and in-service structures and industrial plants.

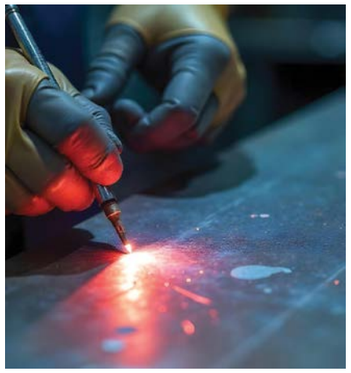
South Africa has an increasing number of high-risk industrial sectors where structural integrity is essential. We therefore need NDT inspectors with the knowledge and skills to validate the integrity of the welded connections in these structures, to minimise the risk of expensive failure and, more importantly, the potential for loss of life. Safety is the key motivation for NDT.

From a localisation perspective, offering Level 3 NDT training here at the SAIW also helps develop high-level technical expertise within the country, reducing reliance on external specialists and strengthening our national inspection capability.

This is particularly relevant to key industries the SAIW serves, including power generation, oil and gas, petrochemical processing, mining, rail, pressure equipment and fabrication, where inspection reliability directly impacts safety, regulatory compliance and asset life.

The new Level 3 courses on offer

This year, we have introduced Level 3 courses in the common NDT Techniques: Penetrant Testing (PT), Magnetic Particle Testing (MT), Ultrasonic Testing (UT), Radiographic Testing (RT) and Visual Testing (VT). While these courses are not new, they have not been available locally over the past 4-5 years, so their reintroduction provides an important opportunity for professionals to upgrade their skills and progress into senior inspection roles.



- The Visual Testing (VT) Level 3 course covers the principles, techniques, and equipment used in visual inspection to detect surface defects. The course includes inspection procedures, evaluation and reporting, quality requirements, and developments in visual testing.
- The Penetrant Testing (PT) course provides advanced knowledge of liquid penetrant testing for detecting surface-breaking defects. Topics include testing principles, equipment, inspection procedures, results evaluation, quality control, and safety considerations.
- Magnetic Particle Testing (MT) Level 3 focuses on magnetic particle inspection for identifying surface and near-surface defects in ferromagnetic materials. The course covers testing principles, equipment, inspection procedures, evaluation, quality aspects, and safety considerations.
- Ultrasonic Testing (UT) Level 3 develops expertise in ultrasonic inspection for detecting internal material defects. Training covers the principles of ultrasonic testing, equipment operation, inspection techniques, result interpretation and quality assurance.
- Radiographic Testing (RT) provides advanced knowledge of radiographic testing for identifying internal defects in materials and welds. The course includes radiographic principles, equipment, inspection procedures, result interpretation, and quality aspects.

At Level 3, technicians progress from performing inspections to designing inspection plans, selecting and approving techniques, interpreting codes and standards, validating results, and taking responsibility for inspection outcomes.

This year, SAIW has introduced Level 3 courses in Penetrant Testing (PT), Magnetic Particle Testing (MT), Visual Testing (VT), Radiographic Testing (RT) and Ultrasonic Testing (UT).

SAIW News: SAIW Level 3 NDT courses

Candidates who may benefit

These courses offer a career pathway for both private candidates and company-sponsored personnel seeking to upgrade their NDT skills and assume greater responsibility, as qualified Level 3 NDT personnel are highly valued by industry, authorised inspection service providers, inspection authorities, and professional bodies.

This course is ideal for NDT Level 2 personnel who want to advance their careers. Level 3 training elevates their expertise from mainly executing inspections to higher-level responsibilities, including interpreting standards, developing procedures, and making technical decisions. It prepares them to progress into senior roles such as NDT Level 3 specialists, and Responsible Persons, or Quality Managers within inspection and integrity management systems.

In addition, for engineers and managers, this training will provide a clear understanding of what NDT can and cannot do, as well as how inspections are used to manage risk. This will help them make better, well-informed technical and business decisions that affect safety, quality, and asset performance.

Advanced PAUT and ToFD course

While we are not yet ready to offer advanced Phased-Array Ultrasonic Testing (PAUT) or Time of Flight Diffraction (ToFD) this year, we are in the process of building our capacity to offer them in the near future. Possibly, start with ToFD in 2027, once we have reestablished core Level 3 NDT training programmes that ensure that the curriculum, resources, and quality systems are well aligned with industry standards.

We are also planning to include the advanced Phased-Array ultrasonic technique in the near future. This need is closely aligned with South Africa's future energy infrastructure needs, particularly in light of IRP 2025, which includes plans for nuclear capacity alongside renewable and gas projects. These developments will require the construction and maintenance of high-integrity systems such as pressure vessels, piping, and structural components, all of which demand strict quality assurance, inspection, and safety compliance.

From an NDT perspective, these projects will increase the demand for highly skilled Level 3 personnel in all techniques, who can develop inspection procedures, interpret codes, and ensure reliability. So expanding advanced NDT training locally will be essential to support the country's infrastructure goals, enhance safety, strengthen regulatory compliance, and reduce reliance on international expertise.

Large-scale projects, such as nuclear power plants, pressure systems, pipelines, and heavy fabrication, require accurate and reliable detection of defects, which depends on expert interpretation of results, development of the most appropriate inspection procedures, and supervision of lower-level inspectors to maintain safety and asset integrity.

Without highly skilled NDT personnel, the risk of undetected defects, equipment failure, or non-compliance with regulatory requirements increases, potentially compromising safety, causing costly delays, or leading to serious accidents.

The SAIW's reputation as a centre of excellence with decades of experience in technical training, assessment, and industry support makes it a training provider of choice for NDT, Inspection and Welding courses. We have passionate, highly qualified, and experienced instructors, which makes all the difference in delivering practical, hands-on learning.

We have also digitised our classrooms to make training more appealing, engaging and accessible, and to progress our standards to those typically used in the modern world.

SAIW training continues to open opportunities for career advancement, professional recognition, and increased employability.

An empowered employee with the right skills and knowledge is a real asset to any company. So, for companies, SAIW training assures quality and compliance, as our courses align with national and international standards, helping staff achieve the competence needed to deliver safe, efficient, and reliable results.

https://www.saiw.co.za

Mark Digby: his legacy lives on

Mark Digby was born on 29 April 1961 in England and immigrated to South Africa in 1969. He matriculated in 1979 from Sunward Park High School. He married Helen in 1983, and together they had four children and four grandchildren, whom he loved dearly.

Mark loved sport. Whatever sport he pursued, he embraced with near-obsessive dedication. He was passionate about cycling and triathlon, and in later years, running and walking. He could join in any sport, anywhere, at any time, and was a talented and enthusiastic all-rounder.

He began his career in Non-Destructive Testing (NDT) at Hall Longmore, where he also completed his Electrical Trade qualification. He worked in the NDT field at CIS, HOWDEN, ESKOM, and the SAIW (on two separate occasions), and was self-employed for a period. He firmly believed that, as a trainer, it was essential to remain active in the field to continually update and strengthen one's practical knowledge.

Mark was a dedicated lecturer at the Southern African Institute of Welding (SAIW), a true master of NDT, a mentor, and a friend. He was more than an educator – he was a custodian of knowledge. His passion for NDT was evident in every lecture he delivered, every workshop he facilitated, and every student he guided.

He possessed a rare depth of technical understanding, combined with the practical insight that only years of industry experience can bring. As a lecturer, he had the remarkable ability to simplify complex principles – whether explaining ultrasonic wave behaviour, radiographic interpretation, or the finer details of penetrant and magnetic particle testing. His classroom was not merely a place of instruction but a space of inspiration, discipline and professional growth.

Mark's contribution to the NDT community extended far beyond course material. He shaped careers, strengthened industry standards, and instilled in his students the importance of integrity, precision and ethical responsibility. To many, he was a mentor. To others, a colleague. To all who knew him, he was a man of character, humility, and unwavering commitment to excellence.

Though he is no longer with us, his legacy lives on in every technician he trained, every inspector he certified, and every professional who carries forward the knowledge he so generously shared.

On behalf of colleagues, students, and the broader NDT fraternity, we extend our deepest condolences to his family and loved ones.

Rest in peace, Mark. Your contribution to the world of NDT will never be forgotten.

He will be deeply loved and profoundly missed by his family.