Fusion

Newsletter of the Southern African Institute of Welding

April 2016

SAIW
Southern African Institute of Welding

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SAIW Certification - International Milestone

ICNDT Recognition and MRA Schedule 2 Registration

SAIW Certification, a proudly South African based Personnel Certification Body (PCB), administering the SAQCC-NDT Scheme for Qualification and Certification of NDT Personnel, is proud to announce that SAIW Certification is now registered under the ICNDT Mutual Recognition Agreement: Schedule 2.

The long road to success

In 2001 the SAIW was appointed as the Regional Designated Centre (RDC) for NDT in Africa, by the International Atomic Energy Agency. Part of the SAIW's obligation as a RDC was to offer access to training courses for NDT personnel, which would allow them to be certified by a certification body using the ISO 17024 ***(Conformity assessment — General requirements for bodies operating certification of person)*** standard with ISO 9712 ***(Non-destructive testing — qualification and certification of NDT personnel)*** as a reference standard.

South Africa already had a long-standing certification system viz. SAQCC NDT thanks to pioneers such as Chris Smallbone and Manfred Johannes, but this required some modernisation and upgrading to meet the best standards. The personal contact between the then Executive Director of SAIW, Jim Guild and the then Chairman of ICNDT, Doug Marshall from CINDE in Canada, was instrumental in supporting SAQCC NDT to regenerate its Level 3 Main Method examinations in 2003. These examinations remain the foundation cornerstone of the current certification system. The support which was received from Doug Marshall, at that time, allowed the SAQCC NDT certification body to make the necessary changes and to have the confidence that the examinations matched international standards.

SAIW Certification was established in 2005 and used the ISO 17024 standard as the basis of its certification systems. SAQCC NDT had largely been working in accordance with ISO 17024 and ISO 9712 but with the formation of SAIW Certification it was able to have independent assessment of its certification practices by SANAS, South Africa's member of the International Accreditation Forum, demonstrating compliance with the international standards, which is generally a pre-requisite of major client users. It also offers NDT personnel the security of knowing that SAQCC NDT Certification is on a par with other international certification systems. Many local NDT luminaries, then and since, have contributed their time and knowledge to the continued development of the certification system.

SAIW became one of the founding members of the African Federation of NDT (AFNDT) in 2006. AFNDT has been encouraged by ICNDT Chairmen, Doug Marshall and more recently Mike Farley, to play a role and be a voice in ICNDT affairs. AFNDT became recognised as a regional group in ICNDT and in 2010 Jim Guild became Chairman of AFNDT, joining the ICNDT Policy and General Purposes Committee and the Certification Executive Committee until his retirement in 2015.

In 2012 SAIW recognised that it needed to be become more active in its own right as a member of ICNDT and joined as an Associate Member (SAINT is our primary member). SAIW is committed to participation in ICNDT and sees it as the world's leading NDT body. SAIW was a joint signatory, with SAINT, to the ICNDT Mutual Recognition Agreement for certification bodies in 2014. The SAQCC NDT certification system has now been accepted as partner to that agreement confirming the widespread international recognition of certified personnel.

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SAIW Certification - International Milestone

Continued from page 1

What does this mean for South African NDT personnel?

This means that holders of SAIW Certification certificates, issued under the SAQCC-NDT certification scheme, are therefore certified by a personnel certification body (PCB), which is registered by the International Committee for Non-Destructive Testing (ICNDT), as meeting the requirements of international standards, including ISO 17024:2015 and ISO 9712:2012; and technical documents referenced in its schedule of conformity, as issued by the national accreditation body viz. SANAS and the ICNDT.

Personnel seeking internationally recognised ISO 9712 Level 1, 2 or 3 certification for the following NDT methods viz. Magnetic Testing (MT), Penetrant Testing (PT), Radiographic Testing (RT) and Ultrasonic Testing (UT) can now achieve this through the SAQCC-NDT scheme.

Eddy Current Testing (ECT) and Visual Testing (VT) certification (Level 1, 2 and 3) is currently provided under the scope expansion operating procedure, in order to collect documented evidence, in preparation for the scope expansion audit scheduled with SANAS during 2016.

Transition of current SAQCC-NDT holders shall be achieved through the normal re-certification process and newly designed SAIW Certificates shall be issued, to include abovementioned statement, after compliance with the renewal or re-certification requirements.

Internationally recognised certification for all six basic NDT methods is available for the Pre-and In-Service industrial sector which includes various product sectors such as castings, forgings, tubes, pipe and welds as well as relevant categories pertaining to specific sample geometries or method application.

For further information, please contact SAIW Certification or refer to the website at www.saiw.co.za.

Acknowledgement

This is a proud moment for the South African NDT Industry, and SAIW Certification would like to express its most sincere appreciation to those individuals who have, through hard work, dedication, commitment and perseverance participated in achieving this success. Listing of individuals, both national as well as international, would exceed the space allocated to this article, thus to all those who were, are and will be involved in the SAQCC NDT Scheme, our utmost gratitude.

ICNDT
INTERNATIONAL COMMITTEE FOR NON-DESTRUCTIVE TESTING
The World Organisation for NDT

ICNDT Multilateral Recognition Agreement (MRA) for Personnel Certification in NDT

Certificate of Registration

SAIW Certification (South Africa)

The above named NDT Personnel Certification Body (PCB) has satisfied all of the eligibility criteria for registration under the ICNDT Multilateral Recognition Agreement (MRA) for PCBs, including having undertaken to abide by the ICNDT Code of Practice, and has been nominated and accepted for registration within the terms of the Agreement signed by those Members of the International Committee for NDT (ICNDT) listed in Schedule 1 to the Agreement.

The Personnel Certification Body may therefore announce that holders of its certificates issued under these arrangements are certificated by a PCB which is registered by the ICNDT as meeting the requirements of the applicable Standards (including ISO 9712:2012 and ISO/IEC 17024:2012) and Technical Documents referenced in the schedule of conformity (scope) issued by the accreditor and/or the ICNDT.

A copy of the MRA, including a list of the signatories and a schedule of those certification bodies satisfying the criteria for registration, is available at www.icndt.org and from all parties that are signatory to the Agreement.

All signatories to the Agreement, and all PCBs registered under the Agreement, are bound to promote the recognition and acceptance of the certificates issued by all other ICNDT Registered NDT Personnel Certification Bodies.

Signed for ICNDT

Chairman

Initial registration date:	17 February 2016
This certificate number:	1
Issue date:	17 February 2016
Expiry date:	16 February 2019

Disclaimer: ICNDT accepts no liability for the use of certification awarded by PCB registered under the MRA. In accordance with ISO 9712 the responsibility for the quality of NDT rests with the employer of the certificated person.
Jurisdiction: The ICNDT Multilateral Recognition Agreement is subject to the jurisdiction of Austria.

Bienvenue

During February 2016, SAIW was visited by a French delegation.

The purpose of the visit was to establish links with relevant training providers for French companies to partner with in order to deliver on the commitment to upskill South Africans in the nuclear engineering field.

The visit was most fruitful and SAIW looks forward to further interaction with nuclear service providers in the field of welding and allied industries. The visit followed the recent announcement by government that it would be going out to tender for the procurement of 9.6GWh of nuclear power.

In the SPOTLIGHT

Tony Paterson

IN OUR SERIES OF PROFILES ON PEOPLE WHO HAVE MADE A DIFFERENCE TO THE WELDING INDUSTRY AND THE SAIW, WE TALK TO INDUSTRY STALWART TONY PATERSON WHO PRESENTLY HOLDS THE SAIW CHAIR OF FABRICATION AND WELDING TECHNOLOGY AT WITS. BORN IN 1944 IN LONDON, TONY GREW UP IN JOBURG ATTENDING HOUGHTON PRIMARY AND KING EDWARD VII HIGH. HE COMPLETED A BSC ENG, AT WITS IN 1969. A BSC HONS AND AN MSC FROM U.P. IN 1978 AND 1980 FOLLOWED. A PHD WAS AWARDED BY THE UNIVERSITY OF MANCHESTER INSTITUTE OF SCIENCE AND TECHNOLOGY (UMIST) IN 1983.

TONY HAS BEEN MARRIED TO MEDICAL DOCTOR LORNA FOR FORTY YEARS. THEY HAVE TWO CHILDREN JACKIE, AN O.T., AND CRAIG, A MEDICAL AND BUSINESS GRADUATE. APART FROM HIS MANY DUTIES AT WORK AND WITH THE SAIW, TONY WAS INSTRUMENTAL IN THE DEVELOPMENT OF THE ALUMINIUM FEDERATION OF SOUTH AFRICA (AFSA).

F: What got you interested in the welding/metals industry

TP: Originally I trained as a structural engineer. I was aware of the complexities of joints. When I came back to the RSA after studying in the UK, the civil engineering industry was in the doldrums. Joining the aluminium industry, I was asked to build the recently initiated AFSA. Realising the need for technology diffusion drew me into aluminium welding and the SAIW as the aluminium industry was, at that stage its main supporter.

F: Tell us a bit about your career

TP: On leaving university I gained experience in civil engineering construction, in structural design and in technology support as I built up the experience required for a PrEng. Post-graduate work followed the need to address questions raised. The work at UP led to the opportunity to study overseas. On my return I was recruited by Alusaf with the brief to build AFSA and to grow the aluminium industry. As is often the case in this country this required technology transfer and diffusion. This included welding.

F: What do you think of the standard of welding education in South Africa and comment on the role that the SAIW is playing.

TP: Welding has become more complex over the years as materials have changed. The SAIW has done a great job in raising awareness of welding in general and in welding training in particular. It is definitely the leading authority in welding practice, welding technology, systems, production control and non-destructive testing in South Africa. Since I initially graduated, the sophistication of welding has improved to the extent that simple welding approaches are no longer adequate to ensure expected performance. The SAIW has done a great job in helping the industry keep up with the changing demands.

F: What do you feel about the prospects for the welding industry in general in South Africa.

TP: Welding is a facilitating process, not limited to metals. Because we can weld, we can join a relatively small number of basic forms to build whole projects. Amongst these in the future are the power generation requirements, the railway rolling stock, new infrastructure and life extension projects together with the need to upgrade – mainly with stainless steel – plants subject to increasing hygiene control, notably the pharmaceutical, food beverage and beer sectors. So the future for the local welding industry is good, I believe.

F: Any comments on the macro economic situation in South Africa and globally and how this affects the local welding/steel industry

TP: Times are tough at this stage and new work is sparse. However the need for life extension through surface cladding, replacement of sections of structures rather than whole structures, repair instead of replace offers opportunities. Sure we will need to find work in different ways and possibly reskill personnel. However, as far as our welding personnel are concerned the SAIW decision to follow the IIW route means that our people have international qualifications and opportunities are always available to them.

Finally I must add that 3D building of specialised metal implants for medical purposes is a welding technology set to change future possibilities. Currently the technology is limited by distortion concerns. But 3D welded medical prostheses are already a reality. Art is feasible. Full acceptance for complete components is only a matter of time.

Another Successful SAIW Awards Ceremony

It is always a heart-warming experience to see so many young men and women doing something so positive with their lives. And there's nothing better in terms of a career choice than the welding industry. Welding offers such a wide variety of things to do from inspection, testing and teaching to practical welding in a host of different industries like the aviation, shipping, petrochemical, automotive, construction and oil and gas industries and many more.

To all our graduates, remember that you have a great responsibility on your shoulders. Welding is one of those activities that can make the difference between life and death. Welders have to be exceptionally disciplined in their work to ensure that only the best result is attained.

Well done to you all!! And good luck with your next step in this great vocation.

Here is a selection of some of the graduates receiving their Awards

Welding Inspector Level One

Welding Inspector Level One – Distinction

Anna Marie van Tonder

Daniel van der Walt

Kavan Naidoo

Linton Bezuidenhout

Rohan Pruis

Senior Welding Inspector Level Two

Senior Welding Inspector Level Two with IIW (S)

Senior Welding Inspector Level Two & IIW (S) – distinction

Fariranayi Samhutsa

Lebongang Thwala

Technologist

Charel van Deventer

Eliza Dlamini

Hendrik Visser

Mark Evans

Princess Kilani

Specialist

Caiphus Murovhi

Vuyane Bolo

Heinrich van Eck with distinction

JOB KNOWLEDGE 120

Structural Steel, CE Marking and ISO 3834

ISO 3834, Quality Requirements for Fusion Welding of Metallic Materials, is a specification that was first published as an EN specification, EN 729, almost 20 years ago, becoming an ISO specification in 2005. It spells out in Parts 2, 3 and 4 what is regarded as best practice with regard to the control of welding and its associated activities. Not being a mandatory specification it has, to a large extent, been ignored by welding fabricators who have adopted the attitude that they will implement the requirements when they have to. That point has now been reached for many companies with the publication of the Construction Products Regulations (CPR) and a number of related specifications that reference ISO 3834 and will therefore directly affect the structural steel industry.

The CPR is the UK version of the European Construction Products Directive and requires structural steel work that is placed on the market to be CE marked. CE marking may be applied to the steel work provided that the manufacturer can demonstrate that the components comply with the relevant harmonised standards – a harmonised standard being a standard that is regarded by the European Commission as satisfying the Essential Safety Requirements set out in the Directive. The CE marking of construction products becomes mandatory in the summer of 2014 at which time fabricators must be able to demonstrate compliance with BS EN 1090, Execution of Steel Structures and Aluminium Structures, the harmonised standard for construction products.

The CPR requires that the manufacturer implements a factory production control (FPC) system to ensure that products comply with the design and service criteria by means of written procedures and inspections and tests. BS EN 1090 Part 1, clause 6.3, which states that an FPC system conforming to EN ISO 9001 and made specific to the requirements of BS EN 1090 is regarded as acceptable. Welding, however, is identified in ISO 9001 as a "special process" and therefore additional controls are required to ensure that welding and its related activities are competently managed – compliance with the relevant part of ISO 3834 satisfies this requirement and is therefore specified in BS EN 1090. The CPR also requires that the FPC system is accredited by a notified body (NB), an NB being an independent third party approved by the government–in the UK via the UK Accreditation Service (UKAS).

BS EN 1090 Part 2 – Steels – divides construction products into four Execution Classes (EXC). EXC1 includes unwelded items, welded items not subject to dynamic loading and items in steels with a specified minimum yield strength below 355MPa. EXC2, 3 and 4 are for increasingly onerous service conditions

Requirement	Comprehensive Quality Requirements Part 2	Standard Quality Requirements Part 3	Elementary Quality Requirements Part 4
Contract review	Full documented review	Less extensive review	Establish that capability and information is available
Design review	Design for welding to be confirmed	Design for welding to be confirmed	As above
Sub-contractor	Treat like a main fabricator		Must comply to standard
Welders/Operators	Qualified to EN 287/1 or ISO 14732		
Welding co-ordination	Welding co-ordination personnel with appropriate technical knowledge according to ISO 14731, or persons with similar knowledge		Not demanded but responsibility of manufacturer
Inspection personnel	Sufficient and competent qualified personnel to be available		
Production equipment	Required to prepare, cut, weld, transport, lift, together with safety equipment and PPE		No demands
Equipment maintenance	Has to be carried out. Maintenance plan necessary	No specific demands - must be adequate	No demands
Production plan	Necessary	More restricted plan necessary	No demands
Welding Procedure Specifications (WPS)	Instructions to be available to Welder. See ISO 15609/1		No demands
Weld Procedure Qualification	To appropriate part of ISO 15614 - qualified as application standard or contract demands		No demands
Work instructions	Welding Specification or dedicated instructions to be available (WPS) – see ISO 15609/1		No demands
Batch testing of consumables	Only if specified in contract	Not specified	No demands
Storage and handling of welding consumables	As per supplier recommendations as minimum		
Storage of parent materials	Protection required from influence by the environment, identification shall be maintained		No demands
Post Weld Heat Treatment	Specification and complete record	Confirmation to Specification necessary	No demands
Inspection before - during - after welding	As required by specification and/or contract		As specified in contract
Non-conformances	Procedures must be available		
Calibration	Procedures must be in operation	Not specified	Not specified
Identification	Required when appropriate	Required when appropriate	Not specified
Traceability	Required when appropriate	Required when appropriate	Not specified
Quality records	As required by contract and product liability, retained for 5 years minimum		

Table 1 summarises the requirements contained in parts 2, 3 and 4.

and for all steels of S355 grade and above. Manufacturers working to EXC1 are required to comply with ISO 3834 Part 4 Elementary Quality Requirements, to EXC2 with ISO 3834 Part 3, Standard Quality Requirements and to EXC classes 3 and 4 with ISO 3834 Part 2 Comprehensive Quality Requirements. Because of the requirement with respect to S355 steels it is likely that most fabricators will need to comply with ISO 3834 Part 3 as a minimum. In addition to the parts mentioned above ISO 3834 has a further three parts, these being part 1, Criteria for the selection of the appropriate level of quality requirements; part 5, Documents with which it is necessary to conform to claim conformity and part 6 Guidelines on implementing ISO 3834. Table 1 below summarises the requirements contained in parts 2, 3 and 4.

Most of the work involved in achieving compliance is in the production and implementation of written procedures and the qualification of welding procedures. Whilst there is no mandatory requirement either in the CPR or EN 1090 for the fabricator to have independent accreditation to ISO 3834 it is inevitable that self-certification will not be acceptable and that purchasers will demand third party accreditation.

Although the implementation of a competent FPC system, whilst being time-consuming, is relatively straightforward there is one area that fabricators may have difficulty complying with. EN 1090 Part2 clause 7.4.3 requires welding co-ordination personnel as specified in ISO 14713, Welding Co-ordination – Tasks and Responsibilities, to be appointed when welding EXC2, EXC3 and EXC4 components. Any individual involved in any way with welding activities is regarded as a welding co-ordinator - from the chief designer to the storeman. It is, however, the appointment of an individual called the Responsible Welding Co-ordinator (RWC) that may be problematic. Table 14, taken from EN 1090 Part2, requires the RWC to have either “basic”, B, “specific”, S or “comprehensive”, C knowledge. Table 15 specifies similar requirements for the welding of stainless steels.

The qualifications of International Welding Specialist (IWS), International Welding Technologist (IWT) and International Welding Engineer (IWE) are quoted in ISO 14731 as examples of qualifications that would be regarded as fulfilling the requirement of B, S and C respectively. Other qualifications of the RWC may be accepted by the accrediting body auditor following a formal interview but the appointment of a suitable qualified and experienced RWC is a potential problem area for many fabricators.

EXC	Steels (steel group)	Reference standards	Thickness (mm)		
			$t \leq 25$	$25 < t \leq 50$	$t > 50$
EXC2	Austenitic (8)	EN 10088-2:2005, Table 3 EN 10088-3:2005, Table 4 EN 10296-2:2005, Table 1 EN 10297-2:2005, Table 2	B	S	C
	Austenitic-ferritic (10)	EN 10088-2:2005, Table 4 EN 10088-3:2005, Table 5 EN 10296-2:2005, Table 1 EN 10297-2:2005, Table 3	S	C	C
EXC3	Austenitic (8)	EN 10088-2:2005, Table 3 EN 10088-3:2005, Table 4 EN 10296-2:2005, Table 1 EN 10297-2:2005, Table 2	S	C	C
	Austenitic-ferritic (10)	EN 10088-2:2005, Table 4 EN 10088-3:2005, Table 5 EN 10296-2:2005, Table 1 EN 10297-2:2005, Table 3	C	C	C
EXC4	All	All	C	C	C

Table 2 Copy of Table 14 from EN 1090 Part 2

EXC	Steels (steel group)	Reference standards	Thickness (mm)		
			$t \leq 25$ [a]	$25 < t \leq 50$ [b]	$t > 50$
EXC2	S235 to S355 (1.1, 1.2, 1.4)	EN 10025-2, EN 10025-3, EN 10025-4 EN 10025-5, EN 10149-2, EN 10149-3 EN 10210-1, EN 10219-1	B	S	C [c]
	S420 to S700 (1.3, 2, 3)	EN 10025-3, EN 10025-4, EN 10025-6 EN 10149-2, EN 10149-3 EN 10210-1, EN 10219-1	S	C [d]	C
EXC3	S235 to S355 (1.1, 1.2, 1.4)	EN 10025-2, EN 10025-3, EN 10025-4 EN 10025-5, EN 10149-2, EN 10149-3 EN 10210-1, EN 10219-1	S	C	C
	S420 to S700 (1.3, 2, 3)	EN 10025-3, EN 10025-4, EN 10025-6 EN 10149-2, EN 10149-3 EN 10210-1, EN 10219-1	C	C	C
EXC4	All	All	C	C	C

[a] Column base plates and endplates ≤ 50 mm.
[b] Column base plates and endplates ≤ 75 mm.
[c] For steels up to and including S275, level S is sufficient.
[d] For steels N, NL, M and ML, level S is sufficient.

Table 3 Copy of Table 15 from EN 1090 Part 2

In addition to the requirements of the CPR and EN 1090 there are several additional specifications that require the implementation of ISO 3834 and its related specification ISO 14713. In order to be included in the Register of Qualified Steelwork Contractors (RQSC), administered by UKAS, it is necessary to comply with the National Highways Sector Scheme for Quality Management in Highway Works document 20 - The Execution of Steelwork in Transportation Infrastructure Assets, fortunately known as “NHSS 20”. This document is mandated in Appendix A of the Specification for Highway Works and describes the quality management system requirements for fabricators providing “transportation infrastructure assets” – this includes road side furniture, overhead gantries, crash barriers, bridges etc. NHSS 20 specifies that the quality systems shall comply with both ISO 9001 and the appropriate part of ISO 3834 – including the appointment of an RWC with qualifications and experience in accord with the execution class of EN 1090.

One final specification that should be mentioned is EN 15085-Railway Applications-Welding of Railway Vehicles and Components. This specification is in four parts and adopts a similar approach with respect to the classification of railway components and the quality assurance systems for the control of manufacture as EN 1090. Fabricators are required to be independently third party certified and to comply with either ISO 3834 Part 2, Part 3 or Part 4 depending on the certification level (execution class in EN 1090). There are numerous specific requirements regarding welding and its related activities in EN 15085 – far more that can be covered in a brief article such as this – reference to the specification is therefore essential. It should be remembered that the requirements of EN 15085apply not only to the main contractor but also to any subcontractors - this includes the repair welding of items such as forgings and castings. ■

Welcome to NDT Level 3

Want to make NDT your career as opposed to just another job?

Want to join the more than 35 SAQCC NDT Level 3s currently operating in the South African and in the African market?

SAIW and SAIW Certification welcomes you to the NDT Level 3 training and examination program - your first step in becoming one of the leaders in the South African and African NDT industries should be to attend the Level 3 training as scheduled below.

The 2016 prgramme starts on 17 October 2016 with the required NDT Level 3 Basic training.

You will be required to write the ISO 9712 Qualification Examinations following the successful completion of the training course.

Following the Basic training, the main method training complying with the ISO 9712 requirements, is presented in the six basic NDT methods viz.:

Surface methods:
Penetrant testing (PT); Magnetic Testing (MT); Visual Testing (VT) and Eddy Current Testing (ECT).

Volumetric Methods:
Radiographic Testing (RT); Ultrasonic Testing (UT).

Eligibility: Who will be able to attend?

As a minimum, all candidates must be Level 2 qualified i.e. they must have received training in accordance with ISO 9712 requirements and must have passed the Level 2 qualification examinations (If not certified as Level 2, the practical examination must have been passed within one year from date of writing the Level 3 main method examination).

Relevant industrial experience as a Level 2 is also recommended.

Valid Level 2 Certification within the relevant NDT Method and sector is however preferred.

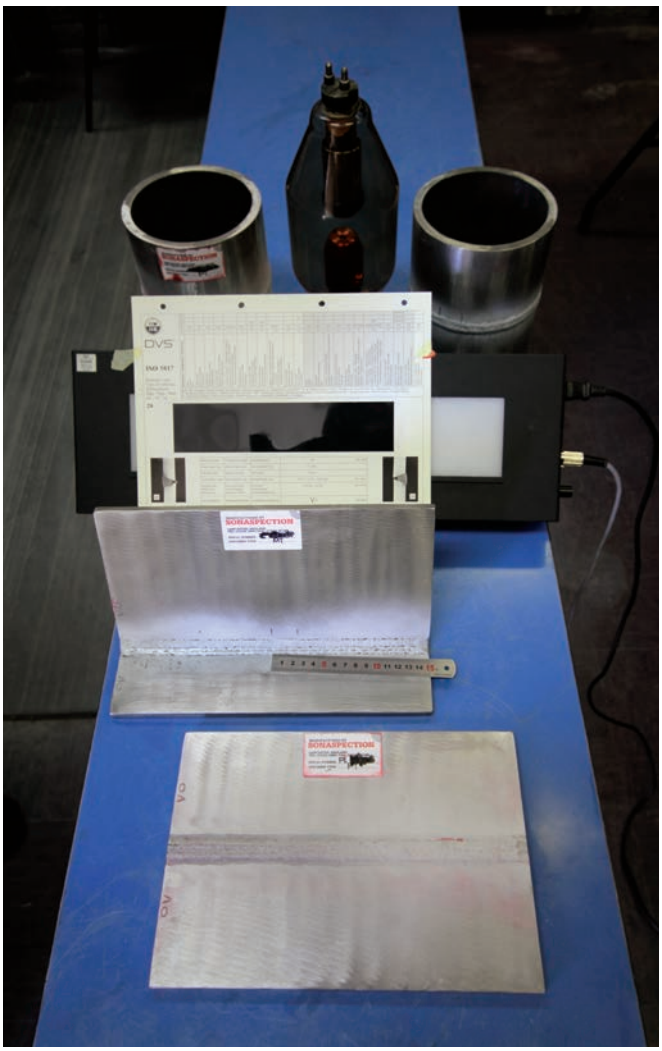
Valid Level 2 Certificate in the applicable method and sector is mandatory when equipment operation or accepting tested components are required i.e. in the case of an operational Level 3 (as opposed to an administrative Level 3).

According to ISO 9712, attending and passing the NDT Level 3 Basic training and examination is a pre-requisite for attending the NDT Level 3 Main Method course and examinations.

Direct Access to Level 3:

A combination of Level 1 and 2 training hours in accordance with an approved syllabus and training program as per ISO 9712:2012 and SAQCC NDT requirements and based on Certification body verification and acceptance is required.

The Level 2 qualification examinations must also have been successfully passed. There is 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.



Level 2 Pre-exams

Should you not have relevant Level 2 certification and if your Level 2 qualification (passing examination only, and applied for personnel certification) has exceeded 1 year, then you will be required to complete and pass a full Level 2 examination in the relevant method and sector.

In order to facilitate personnel requiring Level 2 examinations prior to the Level 3 course program, the following weeks have been allocated to address these issues:

23 – 27 May; 25 – 29 July and 22 – 26 August

Who shall present the courses?

SAIW is currently in negotiation with various internationally approved and certified Level 3 Lecturers. Please refer to our website or forthcoming editions of Fusion to find out more about the relevant lecturers once their participation has been confirmed.

Will the Qualification Examination be internationally recognised?

Yes! The qualification examinations shall be based on the ICNDT Examination Question databank and each paper must be pre-approved by relevant national and international specialists for suitability.

What do I need to do to be certified and will it be internationally accepted?

Once the training and examination are successfully completed, relevant industrial experience compliant with ISO 9712 needs to be attained. Apart from certain allowable reductions, an average of two years per method is required should the candidate have relevant tertiary qualification. If no tertiary qualification is available, then a total of four years per method is required.

The National NDT Society viz. SAINT (South African Institute for Non-destructive Testing) in conjunction with the SAQA registered professional body viz. SAINT Professional Body for NDT, has established a learnership program for newly qualified NDT level 3 Technologists who are struggling to gain relevant industrial experience towards certification. You are encouraged to contact these entities once you have qualified as a Level 3 Technologist.

International recognition

SAIW Certification, a proudly South African based Personnel Certification Body (PCB), administering the SAQCC-NDT Scheme for Qualification and Certification of NDT Personnel, is proud to announce that SAIW Certification is now registered under the ICNDT Mutual Recognition Agreement: Schedule 2.

This means that holders of SAIW Certification certificates, issued under the SAQCC-NDT certification scheme, are therefore certified by a Personnel Certification Body (PCB) which is registered by the International Committee for Non-Destructive Testing (ICNDT), as meeting the requirements of international standards, including ISO 17024:2015 and ISO 9712:2012; and technical documents referenced in its schedule of conformity, as issued by the national accreditation body viz. SANAS and the ICNDT.

SAQCC – NDT : ISO 9712 Level 3 Training Program – 2016

NDT Level 3 Basic

- Training : 17 – 21 Oct
  - Part A : Materials and Processes
  - Part B : Qualification and Certification Schemes
  - Part C : Level 2 Method Knowledge
- Examination : 22 Oct
- Rewrites / Incomplete : 5 Nov, 19 Nov
- Cost (Incl. VAT) : Corporate Members: R15 000
  : Non-Corporate Members: R15 750

NDT Level 3 Main Method: Penetrant Testing (PT 3.A)

- Training : 24 - 28 Oct
  - Part D : General Theory
  - Part E1 & E2 : Specific code and standard related theory
  - Part F : Procedure
- Examination : 5 Dec
- Rewrites / Incomplete : 12 – 15 Dec
- Cost (Incl. VAT) : Corporate Members: R15 000
  : Non-Corporate Members R15 750

NDT Level 3 Main Method: Magnetic Testing (MT 3.A)

- Training : 31 Oct – 4 Nov
  - Part D : General Theory
  - Part E1 & E2 : Specific code and standard related theory
  - Part F : Procedure
- Examination : 6 Dec
- Rewrites / Incomplete : 12 – 15 Dec
- Cost (Incl. VAT) : Corporate Members: R15 000
  : Non-Corporate Members R15 750

NDT Level 3 Main Method: Visual Testing (VT 3.A)

- Training : 7 - 11 Nov
  - Part D : General Theory
  - Part E1 & E2 : Specific code and standard related theory
  - Part F : Procedure
- Examination : 7 Dec
- Rewrites / Incomplete : 12 – 15 Dec
- Cost (Incl. VAT) : Corporate Members: R15 000
  : Non-Corporate Members R15 750

NDT Level 3 Main Method: Eddy Current Testing (ECT 3.A)

- Training : 14 – 19 Nov
  - Part D : General Theory
  - Part E1 & E2 : Specific code and standard related theory
  - Part F : Procedure
- Examination : 8 Dec
- Rewrites / Incomplete : 12 – 15 Dec
- Cost (Incl. VAT) : Corporate Members: R15 000
  : Non-Corporate Members R15 750

NDT Level 3 Main Method: Radiographic Testing (RT 3.A)

- Training : 21 - 25 Nov
  - Part D : General Theory
  - Part E1 & E2 : Specific code and standard related theory
  - Part F : Procedure
- Examination : 9 Dec
- Rewrites / Incomplete : 12 – 15 Dec
- Cost (Incl. VAT) : Corporate Members: R15 000
  : Non-Corporate Members R15 750

NDT Level 3 Main Method: Ultrasonic Testing (UT 3.A)

- Training : 28 Nov to 2 Dec
  - Part D : General Theory
  - Part E1 & E2 : Specific code and standard related theory
  - Part F : Procedure
- Examination : 9 Dec
- Rewrites / Incomplete : 12 – 15 Dec
- Cost (Incl. VAT) : Corporate Members: R15 000
  : Non-Corporate Members R15 750

For further information please contact the following:

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Bookings:
Lillian Pin lillian.pin@saiw.co.za or
Laetitia Dormehl laetitia.dormehl@saiw.co.za
Telephone: 011 298 2100

Qualification and Certification

CONGRATULATIONS TO THE PEOPLE BELOW WHO RECENTLY ACHIEVED QUALIFICATION AND CERTIFICATION.

SAQCC-NDT CERTIFICATES

Liquid Penetrant Testing Level One

Khumalo MS
Ndlovu G
Potgieter AE
Wucherpfennig GH

Liquid Penetrant Testing Level Two

Manyuha J
Titus EG

Liquid Penetrant Testing Level Three

None

Magnetic Particle Testing Level One

Herbst NC
Kabini LG
Mthombeni N

Magnetic Particle Testing Level Two

de Bruyn RG
Grimsdell MS
Mamabolo MS
Manyuha J
Meerholz SG
Moyo J
Sithole NC
van Rooyen JJP
Venter JF
Venter JF

Magnetic Particle Testing Level Three

Meerholz SG

Ultrasonic Testing Level One

Mabaso ZE
Macandza A
Maritz W

Ultrasonic Testing Level Two

De Klerk LJ
Smit JA
van Rooyen JJP
Venter JF

Ultrasonic Testing Level Three

None

Ultrasonic Testing Wall Thickness

Abbas W
Chauke P
Dladla NBJ
Du Plooy L
Hlungwani MT
Khoza S
Magolego E
Masina JM
Milne KO
Mkhabela GN
Mkwanazi CP
Mngomezulu GD
Mnisi N
Molala PM
Nemakonde K
Nkabinde Y
Petersen B
Petersen EA
Ruthman J
Sangweni BB
Sikhosana MM
Wilson RC

Radiographic Testing Level One

Mabila EJ
Mkhwanazi LG
Rossouw PA
van Zyl F

Radiographic Testing Level Two

Pillay IA
van Rooyen JJP

Radiographic Testing Level Three

None

Radiographic Interpreters

Appenah RM
Bridges
Pienaar CB
Vawd ZI

Visual Testing Level One

Lewis NS
Pienaar CB

Visual Testing Level Two

Lewis NS
Pienaar CB

STUDENTS THAT PASSED THE WELDING INSPECTORS LEVEL ONE & TWO

Inspectors Level One

Abbas MR
Achmat L
Adams A
Amos AT
Andrews V
Appelgreen B
Baji FJ
Bekithemba M
Benade A
Benoliel S
Bester J
Bezuidenhout L
Biggar TT
Binneman DJ
Biyela ES
Blackburn P
Botha AS
Botha DJ
Botha J
Bowman WD
Brown C
Camp CM
Chiloane B
Chivell L
Clarke NQ
Cromhout JJ
de Beer JM
de Beer LL
de Bruyn JN
de Bruyn LD
Dlamini ZM
Duminey H
Ehlers MP
Els L
Engelbreght MVZ
Erasmus H
Esterhuizen G
Farais GO
Frederick RK
Fredericks RB
Gazu MM
Gininda MI
Govender P
Grobler BL
Grobler J
Hallett D
Hamid I
Hamiel WJR
Harding JD
Harry-Ind NT
Holmes GF
Homan J
Hugo JC
Jacobie PW
Jacobs RA
Jali LK
Janse van Rensburg D
Khumalo RM
Klynhans E
Kok R
Kunene S
Lotering D
Lubasha IK
Mabaso SM
Mabena PR
Mabuza JB
Madiba ML
Madonsela SC
Mahabeer P
Mahlangu BM
Makgato ME
Malaza B
Mall MS
Malope MS
Maluleka KV
Manugeni H
Marais C
Masakala AT
Mathekga JM
Mavimbela XP
Mazodze K
Mbire NF
Mbonweni NA
Mc Donald JB
Mdolomba SG
Meyer FA
Mkwanazi SV
Mncwabe WS
Mngomezulu MG
Mnguni ZP
Mnisi TAJ
Moabelo MA
Mokoena MM
Moorosi LM
Moreriane TM
Mphela KP
Mtshali SR
Muamba HB
Mudau M
Muroyi C
Naidoo K
Naidoo S
Naidu K
Ndlovu K
Nene S
Ngema TG
Ngwenya K
Ngwenya MN
Nkosi IJS
Nkosi TT
Ntchateu J
Ntoae M
Nxuzulu S
Nyembe CM
Peterson MAP
Phumlani J
Pieters LR
Prins JR
Prinsloo D
Pruis R
Radebe MK
Roestof R
Rossouw J
Rossouw R
Schuute BA
Sekgobela MT
Sentoo JP
Shabalala JD
Sibanda SM
Singleton JP
Smit W
Snyman MH
Stander S
Stevensen IM
Swartling RM
Tagwi L
Toco S
Tshisonga DG
Ullbricht CL
van der Merwe B
van der Merwe CJ
van der Merwe PG
van Eeden R
van Leeuwen AC
Venter E
Venter JA
Vilakazi A
Weyers G
Williams DP
Wilson BP
Wilson ER
Zeni Z

Inspectors Level Two

Abdie RL
Abrahams R
Bernardo JR
Blaauw B
Blake-Zwarts L
Botha CP
Butler RD
de Beer E
Dhilwayo TK
du Toit HL
Dube N
Erentze JA
Fillies B
Firmin KJ
Govender P
Green HC
Harding BW
Hoffman E
Isaacs ML
Jackson EJ
Karriem R
Keller WJ
Linderboom DS
Mabaso T
Madzhie M
Mahlaba HS
Manual F
Maome AB
Matlou MJ
Mkhonza IN
Mkwanazi GS
Moganedi MO
Mokwena NL
Moloko L
Moodley I
Muchemwa N
Musiyiwa A
Mutemararo ZR
Ndhlovu B
Ndhlovu SW
Nemushungwa V
Nortje G
Nyamande A
Oliver SR
Pandor DS
Pretorius MC
Prinsloo LR
Saayman DC
Samhutsa F
Semwayo A
Shabangu VG
Short WE
Snyman AH
Solomons DW
Struyweg DJ
Stuart CR
Thwala L
Tjale EM
Toskany E
Tshabalala NN
Tsoeute MM
Tucker KA
van der Berg DW
van der Westhuizen JJ
van Eck H
van Niekerk C
Venter J
Walker S
Warraich S
Zondi MMV

ASME Codes of Manufacture

Alexs WN
Bosch J
Chettiar LE
Clarke AJ
du Plessis PE
Firmin RN
Govender K
Hope MC
Kingsley K
Lamalette CA
Memani MV
Nankomar R
Snyman J

Painting Inspectors

McCreight RS
Meiring J
van Niekerk JL
Wilson WA

Heat Treatment

Mofokeng TA

CERTIFIED STUDENTS

Boilers

Jones EB
Voogt M

Pressure Vessels

Basson C
Erwee RW
Mkwanazi G
Ndlangamandla S
Ngovene S
Swarts N

IPE

Buckle N
Cavie M
Globe IE
Gradewell LG
Harrinarain M
Mahlangu P
Mashele P
Masilela AA
Mnguni S
Mokoena MJ
Morrow W
Mthethwa D
Pombo G
Smale R
Tsolo PP
Voogt M

Latest 3834 Certifications

SAIW Certification CEO Herman Potgieter says he continues to be pleased with the ever-increasing numbers of companies, big and small, that are being ISO 3834 certified. "I cannot stress enough how important this certification is," says Potgieter. "It's the basic stamp of quality in the welding fabrication business and it is a considerable boost to one's business potential."

He once again stressed that this certification is for companies of all sizes. "Large or small this is your stamp of quality. It gives your potential customers the confidence to move ahead with you in the knowledge that you are producing excellent work."

CONGRATULATIONS TO ALL OF THE LATEST COMPANIES TO GET ISO 3834 CERTIFICATION, SOME OF WHICH ARE PICTURED BELOW.

Amfer Construction and House Services

ILVA General Engineering

Site Maintenance and Fabrication Services

Applied Welding Technology

Stainless Precision Engineering

Cefratec

Starplex

SAIW NOTICE BOARD

BREAKING NEWS!

Young Welder Competition Changes Shape

Now to be called SAIW Youth Welding Challenge

The Young Welder of the Year, the biennial welding industry youth welding competition hosted by the SAIW, will, in future, be known as the SAIW Youth Welding Challenge. It will remain a biennial event. This is a result of an overhauling by WorldSkills South Africa of its welding competition from which the winner gets sent to the International WordSkills event.

One of the advantages of the new system is that the first stages of the competition will take the form of a countrywide series of regional competitions organised by the Technical Vocational Education and Training Colleges (TVETS) and the Further Education Training Colleges (FETS).

From these regional competitions about 20 of the best performing young welders will participate in the SAIW Youth Welding Challenge over five days at the SAIW premises. The top three candidates then qualify for the WorldSkills SA national competition and the winner of that represents South Africa in the welding section of the international WorldSkills competition.

This year the regional competitions will be starting in April and the SAIW Youth Welding Challenge will be held from 21-25 November. The WorldSkills SA competition will take place at the ICC in Durban from 16-18 January 2017 and the WorldSkills International competition is in Abu Dhabi from 14-19 October 2017.

The SAIW's Etienne Nell, appointed by WorldSkills SA as the South African National Expert and who has been the coordinator of the Young Welder of the Year competition since its inception, has been given the task of coordinating the entire new process.

"I am pleased with the changes," says Nell. "Because of the increased emphasis on regional skills development in the new competition structure, more young welders will have the opportunity to demonstrate their skills, which is excellent for the welding industry as a whole in South Africa."

He adds that the new format also widens the net and will attract significantly more young welders to the competition. "This will inevitably increase the chances of South Africa performing better at the International WordSkills competition," Nell says.

SAIW's Etienne Nell will oversee the entire new process on behalf of WorldSkills SA

All stages of the competition will continue to test the welders in the three categories of carbon steel, stainless steel and aluminium with the welding projects now based on the WorldSkills 2015 Sao Paolo project structure. The three winners of the SAIW Youth welding Challenge and the winner and runner-up of the local Worskills SA competition will win sponsored cash prizes.

For more information please contact Etienne Nell on 011 298 2100. If you want to compete please go to www.worldskillssa.dhet.gov.za and enter online.

Meet Maureen Khuzwayo

Maureen Khuzwayo is the first person any caller or visitor to the JHB head office hears or sees!

Now three years at the SAIW, Maureen says she enjoys being "gatekeeper" to the SAIW. Previously at Virgin Atlantic, Maureen says that the most enjoyable thing about her job is that it's all about people. "Whether it's on the phone or in the reception I'm always helping someone and that makes me feel energised."

Maureen loves cooking, working out at the gym whenever she gets the time and reading human interest stories mainly in books and magazines. "I prefer reading to watching television," she says.

Married for 26 years to Ernest Khuzwayo, Maureen has three children: Sandile (23), Sibusiso (19) and Gabangaye (17).

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