COMPANY PROFILE

Mining And Surface Certification (Pty) Ltd

Reg No: 2015/021934/07

www.masc-ex.com

Background of MASC

MASC was established in October 2008 and in this time obtained accreditation / approval from the Department of Mineral Resources & Energy (DMRE), Department of Labour (DOL), SANAS (T0444 & C83), as well as International IECEx Accreditation.

MASC is the largest Ex certification and Hazardous Location services company in Southern Africa, and is the only International (IECEx) accredited Certification Body (ExCB) and Test Laboratory (ExTL) in Southern Africa.
The company covers the widest utilized disciplines in the Ex field, covering the widest scope of accreditation.

The personnel of MASC commit to professional conduct and practice, effective and efficient test and assessment results, as well as a high level of quality in all activities.

MASC Vision and Mission

- It is the **vision** of MASC to:
  - Be the professional explosion prevention Test Laboratory, Certification Body, Markscheme provider and other services supplier of choice for the South African industry;
  - To be an active and respected professional explosion prevention Test Laboratory, Certification Body and other services supplier in the International market.
  - To become a centre of excellence in the provision of Ex Training / Hazardous Location training in South Africa.

- It is the **mission** of MASC to partner with our clients to provide all encompassing solutions that meets legal, technical and commercial requirements.
  In support of this mission we:
  - Respect the authority bestowed upon MASC to issue certificates and reports;
  - Provide effective and efficient testing facilities;
  - Provide technically up to date and superior service;
  - Provide cost effective and timeous service;
  - Promote knowledge transfer to industry / clients,
  - Participate in the formal development and maintenance of hazardous locations / standards and regulations.
  - Develop, maintain and present up to date practical training according to latest best practices and NQF objectives.

MASC Values and Objectives

- **Values** of MASC:

  - **Customer Satisfaction**
    Recognizes that customers are the reason for our existence.
    We will exceed the expectations of both internal and external customers.

  - **Integrity & Ethics**
    Will maintain the highest level of professionalism, honesty and fairness in all aspects of our work.

  - **Accountability**
    Accepts responsibility for work performed and behaviour.

- **Quality & Reliability**
  Personnel of MASC accepts responsibility for the quality of all tasks we perform. Our products and services will be the best in its class.

- **Mutual Respect & Teamwork**
  The personnel of MASC work together cooperatively to satisfy a common goal with consideration for all team members.

- **Innovation**
  MASC will strive to create new ideas to improve the products, processes and the work place for ourselves and our customers.

- **Safety**
  A safe work environment for all stakeholders within the scope of the service(s) we render, is the overriding priority of our company.

- **Impartiality, Conflict of interest, Confidentiality**
  MASC will maintain the highest level of impartiality and confidentiality to prevent a conflict of interest that may jeopardise our integrity and reputation.

- <u>Objectives</u> of MASC:

  - To **provide feedback** to a client for a project submitted within 3 weeks from submission date.
  - To **issue the report, relevant drawings and certificate** within 1 week on completion of project.
  - To have **zero mistakes w.r.t a technical or formatting** nature continuously on issued documentation.
  - To issue **accurate quotes every time** according to **customer** and MASC requirements, so as to achieve compliance to the Quality-system and achieve profitability.
  - To **ensure sufficient and competent personnel** to achieve profitability, turnaround on projects of 3 weeks' feedback, within quality requirements.
  - To achieve **an acceptable level of equipment** on an ongoing basis to test **according** to the quality and the **standard's / accreditation requirements.**
  - To **minimize external complaints** to less than 1 complaint within a 6-month period.

MASC welcomes you to contact us with your Ex certification / Hazardous locations requirements in which we will provide you with a competent and widely recognised service in all aspects required for your Hazardous location product / facility.

MASC always offers a quick turnaround time and competitive price with a much higher value to cost ratio than the competitors.

	MASC Certification, Testing, General	*MASC Training*	*MASC Markscheme*	*International Certification Services (ICS), IECEx / QAR*
Contact:	Francoius du Toit Danie Visser	Natasha Viljoen	Tony Mouton	Terine Orsmond Regardt Zeelie
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Address:	45 Jurg Ave, Lelyta Park Unit 5, Hennopspark Ext 87, Centurion, Gauteng, 0157, South Africa			
Website:	www.masc-ex.com			

Resources

- ✓ Twenty-six dedicated personnel, covering the activities of the company. MASC is continuously expanding its personnel compliment and expertise effectively doubling the human resources in the company in the last few years.
- ✓ All personnel go through stringent assessments as well as regular training to ensure quality throughout the business.
- ✓ Four buildings for its expansive activities. MASC has grown substantially the last two years to increase its effective business area to more than 1000m^2.
- ✓ Conference & training facilities for up to twenty-five delegates.
- ✓ Specialized test equipment and laboratories / test areas.
- ✓ Vehicles for onsite inspection services.

Accreditation / Approval / Membership

- ✓ SANAS Test Laboratory (T0444)
- ✓ SANAS Certification Body (C83)
- ✓ IECEx Equipment scheme
  - ➢ Certification Body (ExCB)
  - ➢ Test Laboratory (ExTL)
- ✓ IECEx Service Facility scheme
  - ➢ Certification Body (ExCB)
- ✓ DMRE (Department of Mineral Resources and Energy)
- ✓ DOL (Department of Labour)
- ✓ SAFA (South African Flameproof Association)

Services

- ✓ **Inspections** (Mine machines / Installations etc.)
- ✓ Ex **Training** / Hazardous Location training
- ✓ MASC **Markscheme** / Quality System **Audits**
- ✓ **Test** and **Certification**
- ✓ **International** certification & support (IECEx, ATEX, UKEx, ANZEx)
- ✓ **IA certification**
- ✓ **Batch testing**
- ✓ **Loop** approval / Intrinsic Safety **system approvals**
- ✓ **Area classification** / Hazardous area classification
- ✓ **Consultation** / Product Development support

Accreditation for Test and Certification services

SANAS T0444 (Test Laboratory)

Discipline	Standard(s)	Signatories (SANAS)	RSA	IECEx
Explosive atmospheres				
• General requirements	SANS/IEC 60079-0	14	✓	✓
• Flameproof (Ex d)	SANS/IEC 60079-1	11	✓	✓
• Pressurisation (Ex p)	SANS/IEC 60079-2	5	✓	--
• Powder filling (Ex q)	SANS/IEC 60079-5	4	✓	✓
• Increased Safety (Ex e)	SANS/IEC 60079-7	7	✓	✓
• Intrinsic Safety (Ex i)	SANS/IEC 60079-11	6	✓	✓
• Non-sparking (Ex n)	SANS/IEC 60079-15	9	✓	✓
• Encapsulation (Ex m)	SANS/IEC 60079-18	10	✓	✓
• Intrinsically safe electrical systems	SANS/IEC 60079-25	5	✓	✓
• Protection level (EPL) Ga	SANS/IEC 60079-26	2	✓	✓
• Protection of equipment and transmission systems using optical radiation	SANS/IEC 60079-28	8	✓	✓
• Gas detectors – Performance requirements of detectors for flammable gasses	SANS 60079-29-1	6	✓	--
• Gas detectors – Selection, installation, use and maintenance of detectors for flammable gasses and oxygen	SANS 60079-29-2	4	✓	--
• Dust ignition-proof (DIP/ Ex tD)	SANS/IEC 60079-31	11	✓	✓
• Equipment protection by special protection "s"	SANS/IEC 60079-33	6	✓	✓
• Caplights for use in mines susceptible to firedamp – General requirements – Construction and testing in relation to the risk of explosion	SANS/IEC 60079-35-1	4	✓	✓
• Caplights for use in mines susceptible to firedamp – General requirements – Performance and other safety-related matters	SANS/IEC 60079-35-2	5	✓	✓
• Explosive atmospheres- Part 46: Equipment assemblies	IEC TS 60079-46	7	✓	✓
• Non-electrical equipment for explosive atmospheres – Basic method and requirements	ISO/SANS 80079-36	7	✓	✓
• Non-electrical equipment for explosive atmospheres – non-electrical type of protection constructional safety "c", control of ignition source "b", liquid immersion "k"	ISO/SANS 80079-37	7	✓	✓
• Portable Light Assemblies for underground use in mines	SANS 1438	7	✓	--
• Batch Testing of Ex equipment	SANS 96	12	✓	--
Cable Glands				
• Cable glands for use on flameproof enclosures (Ex d)	SANS 808	9	✓	--
• Mechanical Cable Glands	SANS 1213	2	✓	--
Ingress Protection				
• Ingress Protection (IP xx)	SANS/IEC 60529	11	✓	--
• Degrees of protection by enclosures for electrical equipment against external mechanical impacts (IK code)	SANS 62262	3	✓	--
Gas Measuring equipment				
• Battery-operated portable, flammable gas measuring instruments and warning devices	SANS 1515-1	6	✓	--
• Fixed, transportable, and vehicle-mounted flammable gas measuring and warning sensor heads and instruments	SANS 1515-2	6	✓	--
• Battery-operated, portable, toxic gas measuring instruments and warning devices	SANS 1515-3-1	4	✓	--
• Battery operated portable oxygen-deficient / oxygen-enriched measuring instruments and warning devices	SANS 1515-4-1	4	✓	--

Discipline	Standard(s)	Signatories (SANAS)	RSA	IECEx
• Fire Detectors	SANS 1515-5	4	✓	--
Flexible Electric Trailing Cable for use in mines				
• Cables with operating voltages of 640/1100 V and 1900/3300 V	SANS 1520-1	6	✓	--
• Cables with operating voltages of 3,8/6,6 kV to 19/33 kV	SANS 1520-2	5	✓	--
• Cables with operating voltage of 1 500 V d.c.	SANS 1520-3	5	✓	--
Diesel machines				
• Hazardous Locations – Mines:				
○ Basic explosion protected engines	SANS 868-1-1	5	✓	--
○ Explosion protected engine systems	SANS 868-1-2	5	✓	--
○ Machines	SANS 868-1-3	5	✓	--
• Hazardous Locations – Surface:				
○ Basic explosion protected engines	SANS 868-3-1	3	✓	--
○ Explosion protected engine systems	SANS 868-3-2	3	✓	--
○ Machines	SANS 868-3-3	3	✓	--
• Non-hazardous Locations – Mines	SANS 868-4	3	✓	--
DC powered (battery-operated) machines				
• For use in hazardous locations in mines	SANS 1654	2	✓	--
Plugs and Sockets				
• General requirements	SANS 1489-1	4	✓	--
• Restrained type plugs and sockets	SANS 1489-2	4	✓	--
• Bolted type plugs and sockets	SANS 1489-3	4	✓	--
• Medium voltage couplers and adaptors	SANS 1489-4	4	✓	--
• Outlets and couplers for industrial purposes	SANS 1239	2	✓	--
• Outlets couplers for industrial purposes – Part 1: General requirements	SANS/IEC 60309-1	2	✓	--
• Outlets couplers for industrial purposes – Part 2: Dimensional interchangeability requirements for pin and contact – tube accessories	SANS/IEC 60309-2	3	✓	--
Luminaires				
• Luminaires for interior lighting, streetlighting and floodlighting – Performance requirements	SANS 475	2	✓	--
• General Requirements and tests	SANS/IEC 60598-1	2	✓	--
• Particular requirements – Section 1: Fixed general purpose luminaires	SANS/IEC 60598-2-1	2	✓	--
• Particular requirements – Recessed luminaires	SANS/IEC 60598-2-2	2	✓	--
• Particular requirements – Luminaires for road and street lighting	SANS/IEC 60598-2-3	2	✓	--
• Particular requirements – Floodlights	SANS/IEC 60598-2-5	2	✓	--
Conveyor belt				
• Conveyor belt idlers Troughed belt conveyor idlers (metallic and non-metallic) for idler roller rotational speeds of up to 750 revolutions per minute	SANS 1313-1	3	✓	--
• Conveyor belt idlers Link suspended idlers and fixed-form suspended idlers (metallic and non-metallic) for idler rotational speeds of up to 750 revolutions per minute	SANS 1313-2	3	✓	--
• Conveyor belt idlers Performance specifications for troughed belt conveyor idlers (metallic and non-metallic) for idler roller rotational speeds of up to 750 revolutions per minute	SANS 1313-3	3	✓	--
• Conveyor belts – Laboratory scale flammability characteristics – Requirements and test method	SANS 340	5	✓	--

Discipline	Standard(s)	Signatories (SANAS)	RSA	IECEx
• Conveyor belts — Fire simulation flammability testing Part 1: Propane burner tests	EN 12881-1	4	✓	--
Breaking Systems				
• The braking performance of trackless mobile mining machines Part 1: General requirements	SANS 1589-1	2	✓	--
• The braking performance of trackless mobile mining machines Part 2: Self-propelled machines with friction brake systems	SANS 1589-2	2	✓	--
• The braking performance of trackless mobile mining machines Part 3: In-service brake testing (trailers excluded)	SANS 1589-3	2	✓	--
Explosives				
• Stemming for use in blasting	SANS 120	3	✓	--
• Guide to the Regulatory Requirements for the Approval of Detonators, Initiators and Initiation Systems used in Mining and Civil Blasting Applications	ARP 1717	2	✓	--
• The design of detonator initiation systems for use in mining and civil blasting applications Part 1: Electronic initiation systems	SANS 1717-1	2	✓	--
• The design and approval of detonator initiation systems for use in mining and civil blasting applications Part 2: Electric initiation system — Shot exploder based	SANS 1717-2	2	✓	--
• The design and approval of detonator initiation systems for use in mining and civil blasting applications Part 3: Controlled blasting systems	SANS 1717-3	2	✓	--
Personal Protective Equipment (PPE)				
• Industrial safety helmets	SANS 1397	6	✓	--
Electrical appliances				
• Audio, video, and similar electronic apparatus – Safety requirements	SANS/IEC 60065	3	✓	--
• Household and similar electrical appliance – Safety – Part 1: General Requirements	SANS/IEC 60335-1	4	✓	--
• Information Technology equipment – Safety Part 1: General Requirements	SANS/IEC 60950-1	2	✓	--
• Hand-held motoroperated electric tools – Safety Part 1: General Requirements	SANS/IEC 60745-1	2	✓	--

SANAS C83 (Certification Body)

Ex Discipline	Standard(s)	SANAS Signatories
IAF 19: Electrical and Optical Equipment		
• General Requirements	SANS/IEC 60079-0	1
• Flameproof (Ex d)	SANS/IEC 60079-1	1
• Pressurisation (Ex p)	SANS/IEC 60079-2	1
• Powder Filling (Ex q)	SANS/IEC 60079-5	1
• Increased Safety (Ex e)	SANS/IEC 60079-7	1
• Intrinsic Safety (Ex i)	SANS/IEC 60079-11	1
• Non-sparking (Ex n)	SANS/IEC 60079-15	1
• Encapsulation (Ex m)	SANS/IEC 60079-18	1
• Repair, Overhaul and reclamation	SANS/IEC 60079-19	1
• Intrinsically safe electrical systems	SANS/IEC 60079-25	1
• Protection level (EPL) Ga	SANS/IEC 60079-26	1
• Protection of equipment and transmission systems using optical radiation	SANS/IEC 60079-28	1
• Gas detectors – Performance requirements of detectors for flammable gasses	SANS 60079-29-1	1

Ex Discipline	Standard(s)	SANAS Signatories
• Gas detectors – Selection, installation, use and maintenance of detectors for flammable gasses and oxygen	SANS 60079-29-2	1
• Dust ignition-proof (DIP/ Ex tD)	SANS/IEC 60079-31	1
• Equipment protection by special protection "s"	SANS/IEC 60079-33	1
• Caplights for use in mines susceptible to firedamp – General requirements – Construction and testing in relation to the risk of explosion	SANS/IEC 60079-35-1	1
• Caplights for use in mines susceptible to firedamp – General requirements – Performance and other safety-related matters	SANS/IEC 60079-35-2	1
• Explosive atmospheres- Part 46: Equipment assemblies	IEC TS 60079-46	1
• Non-electrical equipment for explosive atmospheres – Basic method and requirements	ISO/SANS 80079-36	1
• Non-electrical equipment for explosive atmospheres – non-electrical type of protection constructional safety "c", control of ignition source "b", liquid immersion "k"	ISO/SANS 80079-37	1
• Cable glands for use on flameproof enclosures (Ex d)	SANS 808	1
• Mechanical Cable Glands	SANS 1213	1
• Ingress Protection (IP xx)	SANS/IEC 60529	1
• Portable light assemblies for underground use in mines	SANS 1438	1
• Plug, socket-outlet & coupler for industrial purposes	SANS 1239	1
• Electrical connectors in group I and II hazardous areas – Part 1: General requirements for group I hazardous areas	SANS 1489-1	1
• Electrical connectors in group I and II hazardous areas – Part 2: Restrained type plug and sockets for group I hazardous areas	SANS 1489-2	1
• Compression-ignition engine systems Part 1-1: Hazardous locations in underground mines – Basic explosion protected engines	SANS 868-1-1	1
• Compression-ignition engine systems Part 1-2: Hazardous locations in underground mines – Explosion protected engine systems	SANS 868-1-2	1
• Compression-ignition engine systems Part 1-3: Locations on surface – Machines	SANS 868-1-3	1
• Gas measuring equipment for use in mines Part 1: Battery-operated portable, flammable gas measuring instruments and warning devices	SANS 1515-1	1
• Gas measuring equipment for use in mines Part 2: Fixed, transportable and vehicle-mounted flammable gas measuring and warning sensor heads and instruments.	SANS 1515-2	1
• The rewinding and refurbishing of rotating electrical machines Part 1: Low-voltage three-phase induction motors.	SANS 10242-1	1
• Induction motors Part 1: IEC requirements	SANS 1804-1	1
• Induction motors Part 2: Low-voltage three-phase standard motor	SANS 1804-2	1
• Outlets and couplers for industrial purposes	SANS 1239	1
• Outlets couplers for industrial purposes – Part 1: General requirements	SANS/IEC 60309-1	1
• Outlets couplers for industrial purposes – Part 2: Dimensional interchangeability requirements for pin and contact – tube accessories	SANS/IEC 60309-2	1
• Safety of luminaires Part 22: Luminaires for emergency lighting	SANS 1464-22	1
• Electrical connectors in group I and II hazardous areas – Part 3: Bolted type plugs and sockets for group I hazardous areas	SANS 1489-3	1
• Electrical connectors in group I and II hazardous areas – Part 4: Medium voltage couplers and adapters for group I hazardous areas	SANS 1489-4	1
• Flexible electric trailing cables for use in mines Part 1: Cables with operating voltages of 640/1100 V and 1900/3300 V	SANS 1520-1	1
• Flexible electric trailing cables for use in mines Part 2: Cables with operating voltages of 3,8/6,6 kV to 19/33 kV	SANS 1520-2	1
• Luminaires Part 1: General Requirements and tests	SANS/IEC 60598-1	1

Ex Discipline	Standard(s)	SANAS Signatories
• Luminaires Part 2: Particular requirements – Section 1: Fixed general purpose luminaires	SANS/IEC 60598-2-1	1
• Luminaires Part 2: Particular requirements – Section 5: Floodlights	SANS/IEC 60598-2-5	1
IAF 2: Mining and Quarrying		
• Permitted Explosives	SANS 1484	1
IAF 14: Rubber And Plastics Product		
• Conveyor Belting – Textile reinforced solid woven Product carcass construction	SANS 968	1
• Conveyor Belting – Methods of testing fire retardant properties of all conveyor belting constructions	SANS 971	1
• Conveyor Belting – General Purpose textile– reinforced construction	SANS 1173	1
• Conveyor belting – Steel cord reinforced construction	SANS 1366	1

Training

- MASC training is developed and presented by experts in the field with extensive knowledge and experience. The presenters and all staff at MASC, are willing to assist in your day to day hazardous area training requirements.
- MASC makes use of a practical / hands on approach. An interactive environment is created and this helps the delegates feel at ease to ask questions, and to participate in the discussions and exercises.
- The courses that we provide are designed to provide training at various levels, (entry level up to middle and senior management), depending on the requirements of the client and delegates. The level of training can be adapted to suit specific needs.
- Training includes:
    - Latest interpretations, legislation, regulations and standards;
    - South African context / certification environment as well as international approaches;
    - Cover all areas of the workplace, therefore allowing delegates to be immediately productive in their work environment.
- The Training Coordinator can be contacted for a personalized evaluation of your requirements, or to answer any questions pertaining to the training.
- Discounts may also be negotiated for on-site training and / or large groups – six or more delegates.
- On completion of the course, MASC will issue a soft copy certificate to you, typically within two business days.
- Courses include:

    - **Ex Training / Hazardous Location training:**
        - Hazardous Locations
        - Flameproof
        - Intrinsic Safety
    - **Quality Management Courses**
        - Flameproof Manufacture / Repair
        - Intrinsic Safety Manufacture / Repair
    - **Non-Sparking / Dust Ignition Proof / Other techniques or topics as required**
    - **Customised courses according to client requirements**

Refer to MASC Training Brochure for more details.

MASC Certification support

- MASC can deliver services in this separate function (separate from the test and certification process) including; Regulations, Certification support, Certification documentation / Drawing compliance, Design concerns, Quality system requirements, certification processes etc.

IA certificates, Markscheme and Certification support processes

- ***Background to IA Certificates:***
  - Requirements for IA certificates are governed by:
    - DMRE- ARP 0108: 2018 "Regulatory requirements for explosion- protected apparatus"
    - DOL- OHSA 85 of 1993 "National Code of Practice for Electrical machinery in Hazardous Locations, Regulatory Requirements for Explosion-protected apparatus" (August 2022)
    - SANS 10108: 2014 "The classification of hazardous locations and the selection of equipment for use in such locations"

  - Some important definitions are as follow:
    - Accredited test laboratory (ATL)
      Test laboratory that is accredited by a government-endorsed accreditation body (see foreword), and approved by the relevant regulator(s) to carry out tests specified in the appropriate standards and to issue certificates (known as IA certificates) for explosion-protected apparatus (EPA) indicating that such apparatus complies with safety requirements and any other requirements of the relevant regulator(s)
    - IA certificate (Type certificate)
      National certificate issued for Ex equipment by an ATL endorsing conformance with the relevant national standards.
      NOTE 1: IA certificates apply to both surface (group II and group III) and mining (group I) applications.
      NOTE 2: The entity who submits the equipment for testing, and in whose name the certificate is issued is described as the "certificate holder', the issuing ATL is the legal owner of the certificate

  - The applicable certification requirements referring to IA certificates includes the following:

    - Annex A (ARP 0108: 2018)

      A.1 In South Africa, all explosion protection equipment (EPA) used in underground mines (group I) and on the surface (group II and III) shall be covered by an IA certificate.
      This includes machines; to qualify for certification a machine shall be made up of equipment with valid certification. The requirements given in A.2 to A.19 cover the validity of IA certificates.

      A.2 All IA certificates issued shall have a validity period of 10 years for manufacturing purposes. EPA having been manufactured under a valid IA certificate will not be affected when the certificate expires; in other words, such products will be considered to still have valid certification.
      An IA certificate based on overseas certification will be valid, depending on the continued validity of the overseas equipment certification as well as product quality assurance, for a maximum period of three years. It is the responsibility of the IA certificate holder to ensure that an updated quality system certificate is submitted to the relevant ATL if the validity period is less than three years.

      For renewal of certification, a new IA certificate number shall be issued. For certification of modifications affected to equipment within the validity cycle, a supplement may be issued if the original certifier is involved; otherwise a new certificate shall be issued.

- ~ Annex A (OHSA 85 of 1993 "National CoP for Electrical machinery in Hazardous Locations, Regulatory Requirements for Explosion-protected apparatus")

  A.1 In South Africa, all explosion protection equipment (EPA) used on the surface (Groups II and III) shall be covered by an IA certificate.
  This includes machines; to qualify for certification a machine shall be made up of equipment with valid certification. The requirements given in A.2 to A.19 cover the validity of IA certificates.

  A.2 All IA certificates issued shall have a validity period of 10 years for manufacturing purposes.
  EPA having been manufactured under a valid IA certificate will not be affected when the certificate expires; in other words, such products will be considered to still have valid certification.
  An IA certificate based on overseas certification will be valid, depending on the continued validity of the overseas equipment certification as well as product quality assurance, for a maximum period of three years. It is the responsibility of the IA certificate holder to ensure that an updated quality system certificate is submitted to the relevant ATL if the validity period is less than three years.

  For renewal of certification, a new IA certificate number shall be issued. For certification of modifications affected to equipment within the validity cycle, a supplement may be issued if the original certifier is involved; otherwise a new certificate shall be issued.

- *How to obtain an IA Certificate*
  - The following information must be submitted:

    - ~ Product is not certified:
      Submit application (provided on request), drawings, instructions and related QAR/QAN (as applicable).

    - ~ Product is ATEX Certified:
      Submit letter of application (alternatively an application form can be forwarded), Certificate (all issues), a copy of the QAN and instructions. Submission of stamped drawings is preferred, but not required.

    - ~ Product is IECEx Certified:
      Submit letter of application (alternatively an application form can be forwarded), Certificate (all issues), a copy of the QAR (web based version acceptable) and instructions. Submission of stamped drawings is preferred, but not required.

    - ~ Product certified to alternative schemes:
      Submit letter of application (alternatively an application form can be forwarded), Certificate (all issues), a copy of the QAN / QAR (or alternative Ex quality assurance listing) and instructions. Submission of stamped drawings may be required.

- *MASC Markscheme / Quality System Audits (According to ATEX, UKEx, ANZEx and IECEx guidelines), IECEx QAR's (according to IECEx rules)*

MASC provides a SANAS accredited and Government approved Markscheme // Quality system Audits (IECEx) catering for over eighty clients countrywide and growing at a rapid pace. The MASC Permit Markscheme // Quality system Audits (IECEx) is operated applying the principals / requirements of ISO 9001; ISO/IEC 80079-34 (manufacturing) and IEC/SANS 60079-19, IECEx OD 314-5 and IECEx OD 315-5 (repairs). The audits are conducted to cover both Quality Management System(s) and Product Certification.

The Permit Markscheme // Quality System Audits are conducted by auditors with local and international experience and technical competence in the Ex techniques.

SANAS Accredited Markscheme (C83): In February 2018 MASC achieved SANAS accreditation for the Markscheme as a type 5 scheme according to ISO/IEC 17065.

- *MASC Certification Support:*
  - Background:
    MASC has close to 100 years combined experience in the certification industry in South Africa and international certification markets, including IECEx, ATEX, UKEx, South Africa, ANZEx etc. With this experience comes a practical and functional knowledge of the standards, technical requirements and practical applications. MASC has identified the need for standards interpretation and practical implementation. Therefore, a function was introduced where MASC may assist clients separate to the test and certification process.

    Why does MASC not cover this during the certification and testing process:
    As a Test Laboratory and Certification Body, impartiality must be maintained w.r.t. the testing and certification process. Therefore, the MASC personnel actively involved in the testing, inspection and certification of a product / system / installation / machine, may not make recommendations or give certification support w.r.t. compliance and practical ways to achieve certification.

  - Service:
    MASC can deliver services in the separate function (Separate from the test and certification process) including; Regulations, Certification support, Certification documentation / Drawing compliance, Design concerns, Quality system requirements, certification processes etc. Within this function it is best to indicate the requirements and MASC will do a proposal w.r.t. how they can assist.

  - Process:
    - The process is started before a submission. However, if during a submission issues are identified by the test / certification / inspection personnel, clients may also make use of this function to clarify / interpret / improve the certification / product / installation.
    - The issue is submitted in writing, e.g. via e-mail to MASC.
    - A quote and costing is agreed.
    - MASC assists in a written response, e.g. may be via e-mail.
    - If a meeting is required, it may be incorporated as part of the service delivery.

We are looking forward to further assisting industry in improving / achieving the certification and compliance requirements.