

## emergency escape ironmongery 1000mm wide Fencing Clear View 3000H line welded wire BV01 SVA01 BV01 BV01 SVA01 BV01 BV01 ( SVA01-BV01

## GAS INSTALLATION SPECIFICATION NOTES:

All work on the gas and related installations shall comply with the latest amendments of the following:

1. SANS 10142 - The standard regulations for wiring of premises issued by

the South African Institute of Electrical Engineers. 2. The electrical installation shall be classified as per SANS 10108 - The classification of hazardous locations and the selection of equipment for use in such locations and SANS 60079-10-1:2010 Explosive

atmospheres – Part 10-1: Classification of areas – Explosive gas atmospheres 3. Occupational Health and Safety Act, 1993, as amended.

4. City of Tshwane Metropolitan Municipality Fire Brigade Service By-Laws. 5. Installations for the various gases shall comply to relevant codes as follows

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ltem		Chemical Symbol	Pipe Material	Code*				
1	Argon	Ar	316 s/s	SANS 10260-1				
2	Helium	He	instrument tubing,	SANS 10260-1				
3	Methane		welded joints and fittings with screwed accessories	SANS 827				
4	Nitrogen	N <sub>2</sub>		SANS 10260-1				

\*All gas installations shall comply with SANS 10263-2 – The storage & handling of gas cylinders

6. SANS 827 Part 1 - The installation of pipes and appliances for use with natural gas. The Methane installation shall comply with the latest revisions of

SANS 287 and and BCGA Code of Practice 4; Industrial Gas Cylinder Manifolds and Gas Distribution Pipework. Piping shall be 316 stainless steel instrument tubing, unpolished, welded joints and fittings.

6.1 The Methane installation, repairs and maintenance work shall be executed by a registered authorised gas practitioner in accordance with the requirements of Regulation 1591, 1996 of the OHS Act: Vessels under

Pressure, Regulations 6.2 The gas container manifold and supply system shall be designed, installed, commissioned inspected and maintained in accordance with

ANNEX A of SANS 827 6.3 The location of the installation shall comply with the requirements of

SANS 827. All applicable safety distances and maximum allowable capacities shall be applied to the installation of appliances on the gas system and shall comply with SANS 1539.

6.4 Low pressure regulators shall comply with SANS 1237.

6.5 Tubing and hoses shall comply with the requirements of SANS 1156. 6.6 All piping, fittings and components of the Methane system shall comply with SANS 827 and any materials, fittings and components shall comply with specifications referred to in this section.

6.7 Methane system shall be fitted with flashback arrestors at the manifolds, branch offs on every floor and branch offs in valve boxes where applicable.

6.8 At least one off 9kg dry powder fire extinguisher in compliance with SANS 1910 is required for an installation involving 2 or more cylinders. Total number of extinguishers shall be allowed for as per Fire Engineer. 6.9 Fire protection for the installation shall comply with the requirements of the Fire Engineer.

6.10 The user is responsible for ensuring that all appliances and components of the system, including pipeline distribution are inspected at intervals not exceeding 4 years to ensure that all components are operating correctly and that the system is free of leaks and damage.

6.11 Manifolds shall be colour coded and identified as per SANS 10140 Part 3. 6.12 No gas shall be supplied to the installation until the installation has

been approved by and registered with the local authority. 6.13 All electrical work associated with the installation shall comply with the requirements of SANS 10108.

6.14 The manifold installation shall be fenced in to prevent unauthorised access

6.15 The enclosure shall be fitted with signage as per SANS1186 indicating NO SMOKING, NO NAKED FLAME, DANGER, FLAMMABLE, NO UNAUTHORISED ENTRY

6.16 No cylinders other than those connected to the supply manifold may be stored in the manifold enclosure. 6.17 No open drains within 3m from the gas manifold shall be allowed.

7. SANS 10260 - Part 1: 2004 Industrial gas pipelines. Distribution of Oxygen, Nitrogen and Argon at Consumer sites.

The Helium installation shall comply with this code.

Gate, lockable with

7.1 All pipe work shall be 316 stainless steel, unpolished with welded

fittings and joints.

7.2 The gas supply installation shall comply with Section 5.5 7.3 The location of the installation as well as the safety distances of the installation shall comply with Section 5.5.6

7.4 Where gas is supplied by a direct pipeline, the pipeline shall comply with Section 5.4

7.5 The source of supply, manifolds, manifold headers, change over devices, regulators, valves shall comply with Section 5.

7.6 The pipeline, pipe routing, construction of pipelines shall comply with Section 6

7.7 The user is responsible for ensuring that all outlet points, components of the system, including pipeline distribution are inspected at intervals not exceeding 4 years to ensure that all components are operating correctly

and that the system is free of leaks and damage. 7.8 The operation of the pipeline as well as maintenance shall be as per Section 9.3

7.9 The manifold shall be colour coded and identified as per SANS 10140 Part 3. 7.10 No Oxygen, Nitrogen, Helium or Argon shall be supplied to the

installation until the installation has been approved by and registered with the local authority.

7.11 All electrical work associated with the installation shall comply with the requirements of SANS 10108. 7.12 The manifold installation shall be fenced off to prevent unauthorised

access 7.13The enclosure shall be fitted with signage as per SANS1186 indicating

NO SMOKING, NO NAKED FLAME, DANGER, FLAMMABLE, NO UNAUTHORISED ENTRY 7.14 No cylinders other than those connected to the supply manifold may

be stored in the manifold enclosure.

8 General 8.1 Warning notices shall be positioned adjacent to the valves clearly and prominently stating that the valves shall not be closed by unauthorised persons.

8.2 Pressure gauges shall be of the Bourdon dial type. 8.3 All testing operations shall be witnessed by the Engineer. 8.4 The gas bank shall be furnished with fire hose reels in weather proof cabinets, each with 9kg DCP fire extinguishers in lockable cabinets with break glass units as per Fire Engineer

8.5. All gas pipes shall be sleeved where pipes pass through walls and slabs and sealed off with suitable non-flammable sealant, as approved by the Fire Engineer

8.6 All the relevant safety signs shall be mounted on all sides where public and/or personnel can approach the enclosure. 8.7 All the laboratory gas manifolds shall be manual changeover type 2 x 1 cylinder.

8.8 Manifolds shall be fitted with duty/standby Teskom or Draeger regulators or approved equal. 8.9 Gas mains from the gas bank, along the fence pole supports,

outside walls, etc. shall be mounted in galvanized trunking, on HDG unistrut brackets with galvanized sheet steel cover plate. 8.10 All building work shall be constructed as per Architect and Structural Engineer's specifications

8.11 All flammable gas manifolds shall be earthed

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