

PRYSM MINING AND VENTILATION SERVICES

SENIOR MECHANICAL ENGINEER

Centurion, Gauteng | Mining & Industrial | Permanent

ABOUT PRYSM MINING AND VENTILATION SERVICES

Prysm Mining and Ventilation Services is a specialist consultancy, engineering and manufacturing company providing independent, strategic and pre-emptive advice and personalized services to exploration and mining companies, engineering firms, financial institutions and investors across mining and industrial ventilation and occupational hygiene disciplines.

Our team of highly qualified professionals has extensive hands-on experience across underground and surface mining, refrigeration plant design and commissioning, ventilation network modelling, mine optimisation and project management. We have successfully delivered large-scale refrigeration and ventilation projects for Anglo Platinum and other leading mining houses — including Siphumelele Shaft, Amandelbult, Thembelani 2# and Khuseleka — with project values ranging from USD 3 000 to USD 12 million.

POSITION OVERVIEW

Prysm Mining and Ventilation Services invites applications from a **dynamic, driven and technically accomplished Mechanical Engineer** to join our multidisciplinary consulting team. The successful candidate will contribute directly to the design, simulation, auditing, and project delivery of mine refrigeration and ventilation systems across surface and underground operations in the gold, platinum, and other mining sectors. This role suits a self-motivated engineering professional who thrives in a fast-paced consulting environment and is committed to technical excellence and client satisfaction.

KEY RESPONSIBILITIES

Design & Engineering	Undertake detailed mechanical designs of refrigeration plants and associated systems, including surface and underground installations, chilled water reticulation, cooling towers and bulk air-cooling systems across all sectors of the industrial, commercial and mining environment.
HVAC Simulation	Develop, run and interpret refrigeration system simulation models using industry-standard software (Pumpsim, Flownex and similar tools) to evaluate plant performance, capacity optimisation and energy efficiency.
Mine Ventilation	Conduct mechanical engineering design for mine ventilation equipment based on analyses for surface and underground as simulated and presented by ventilation specialists;
Auditing & Gap Analysis	Perform refrigeration plant performance audits, ventilation and occupational hygiene compliance audits (OHSAS 18001), HAZOP studies and gap analyses across surface and underground mining operations as well as industrial related applications

Specifications & Costing	Compile comprehensive Works Information, engineering specifications, bill of quantities and capital cost estimates for HVAC plant projects, aligned with NEC 3 contract requirements and industry best practices.
Feasibility & Studies	Contribute to Desktop, Scoping, Pre-Feasibility and Definitive Feasibility Studies covering ventilation and refrigeration, cooling and heating, and compressed air engineering aspects from concept through to execution and commissioning.
Project Execution Support	Support project management activities including scope definition, procurement assistance, contractor management, quality control, site supervision and commissioning of heating, air conditioning, refrigeration and ventilation systems.
Client Reporting	Prepare high-quality technical reports, presentations and proposals; liaise directly with clients including mining houses, engineering firms, industrial manufacturing companies and financial institutions.

MINIMUM REQUIREMENTS

Qualifications

- BEng / BSc (Hons) Mechanical Engineering from a recognised South African university.
- Registration or eligible for registration as a Professional Engineer (Pr.Eng) with the Engineering Council of South Africa (ECSA) — essential.
- Minimum 5 to 10 years' post-graduate experience in mechanical engineering consulting, with demonstrable exposure to industrial, commercial and mining environments.

Technical Experience

- Proven mechanical design experience in mine refrigeration systems — surface and underground — within the gold and/or platinum, diamond and coal mining environment.
- Hands-on experience with refrigeration system simulation using tools such as Pumpsim, Flownex, HAP, Loadest or equivalent software.
- Demonstrated ability to compile detailed engineering specifications, Works Information documents and bill of quantities.
- Experience in refrigeration plant performance auditing, energy efficiency assessments, and gap analyses.
- Competence in capital cost estimation, project costing and budget preparation for mechanical plant and equipment.
- Familiarity with NEC 3 contract structures and their application in the engineering and procurement environment.
- Exposure to project management methodologies including scope, schedule, procurement, quality, and cost control.
- Knowledge of applicable South African mining legislation, OHSAS 18001/ISO 45001 and relevant SANS standards.

Industry Background

- Candidates with experience gained at leading engineering consultancies or EPCM contractors operating in the mining sector will be favourably considered.
- Proven track record working on Anglo Platinum, Impala Platinum, Gold Fields, AngloGold Ashanti or equivalent Tier-1 mining house projects is a distinct advantage.
- Solid understanding of both surface and underground mine refrigeration challenges, including heat load calculations, psychrometric analysis, and chilled water reticulation design.

PROFESSIONAL REGISTRATIONS & AFFILIATIONS

ECSA — Pr.Eng

ESSENTIAL

Registration as a Professional Engineer with the Engineering Council of South Africa.

MVSSA

Advantageous

Mine Ventilation Society of South Africa membership.

SAIRAC

Advantageous

South African Institute of Refrigeration and Air Conditioning registration.

PERSONAL ATTRIBUTES

Self-starter: Highly motivated individual who takes ownership of deliverables and drives work to completion with minimal supervision.

Analytical mindset: Strong first-principles engineering thinking with exceptional problem-solving and numerical modelling capability.

Communication skills: Ability to produce well-structured technical reports, specifications, and client presentations to a professional standard.

Teamwork: Collaborative team player who works effectively within multidisciplinary consulting teams and contributes to shared goals.

Adaptability: Comfortable working across surface, underground, and industrial environments, and across gold, platinum, diamond and coal commodity types.

Integrity & diligence: Committed to accuracy, confidentiality and the highest possible service standards as expected of a Prysm professional.

WHAT PRYSM OFFERS

At Prysm Mining and Ventilation Services, we are committed to building a world-class team that delivers exceptional value to every client and project. The successful candidate will enjoy:

- Exposure to technically complex, high-value mechanical engineering HVAC and compressed air projects across South Africa and Africa's Industrial and mining sectors.
- A collaborative, expert-driven environment where practical hands-on experience is valued alongside technical qualifications.
- Opportunities for continuous professional development, skills transfer, and ECSA CPD accumulation.
- Competitive market-related remuneration commensurate with qualifications and experience.
- A commitment to health, safety and the wellbeing of all team members — underpinned by an outstanding safety record of over 1 million LTI-free hours across various projects.

HOW TO APPLY

Forward your comprehensive CV, certified copies of qualifications and a covering letter motivating your suitability for this role to:

Email: info@prysm.co.za

Website: www.prysm.co.za

CLOSING DATE: COB-14 AUGUST 2026

Tel: +27 (0) 87 265 1703 | +27 (0) 82 561 8732

Southdowns Office Park, 22 Karee Street, Irene, Centurion, 0157

Prysm Mining and Ventilation Services is an equal opportunity employer. Should you not receive a response within 30 days of the closing date, please consider your application unsuccessful.