ArmCoil

Delivering Power Solutions through Transformers & Substations

ACEM TRANSFORMERS

ABOUT ARMCOIL

Since 2002, ArmCoil has been a trusted pioneer in the electrical engineering industry. Our core mission is to provide world-class transformer and substation solutions that meet the ever-evolving needs of industrial, mining, commercial, and renewable sectors.

With a modern manufacturing facility in Roodepoort, South Africa, and a team of skilled engineers and technicians, ArmCoil delivers tailored, high-quality electrical equipment built for durability, safety, and peak performance.

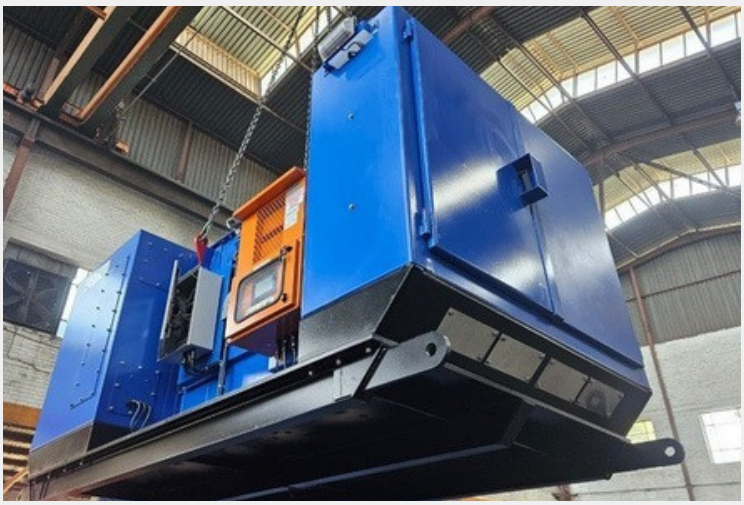
We operate under strict adherence to international standards such as ISO9001 (Quality Management), ISO14001 (Environmental Management), ISO45001 (Occupational Health & Safety), and ISO17025 (Testing and calibration of Designed and Built Transformers and Substations)
ensuring that our customers receive not only products but also dependable service and support.

OUR COMMITMENT

As Africa's demand for reliable power grows, ArmCoil Afrika is committed to innovation and local manufacturing. We empower industries by supplying robust transformers and turnkey substations designed for harsh environments and complex applications — including mining operations, renewable energy projects, and utility networks.

Our Vision:

To be a global leader in delivering innovative transformers and substations — driven by quality and committed to shaping a sustainable future through excellence and innovation.



ACEM PRODUCT PORTFOLIO

1. Distribution Transformer Manufacturing

- Range & Capacities:
  - We manufacture dry-type and oil-cooled distribution transformers ranging from low to medium voltage levels, customized to client specifications for ratings up to 20MVA.
- Quality & Efficiency:
  - Our transformers are designed with advanced core materials and insulation systems to minimize losses, improve energy efficiency, and extend operational life.
- Applications:
  - Ideal for urban distribution networks, rural electrification, mining, and industrial facilities.

2. Medium Voltage Miniature Substations

- Compact & Modular:
- Our MV Miniature Substations are skid-mounted units designed for easy transportation, installation, and integration into existing infrastructure.
- Features:
  - Dry-type cast resin transformers with forced air cooling
  - Dual low-voltage compartments for enhanced safety and accessibility
  - Integrated protection relays and monitoring systems
  - Fire suppression and gas detection options
- Use Cases:
- Frequently deployed in mining sites, commercial parks, and renewable energy facilities where space and safety are priorities.

3. PV, Wind, Generator & VSD/VFD Transformer Packages

- Renewable Energy Optimized:
- ArmCoil offers transformers engineered for photovoltaic solar systems, wind turbines, generator sets, and variable speed/frequency drive applications.
- Technical Highlights:
  - Specially designed winding and insulation to handle variable loads and harmonics
  - Enhanced cooling for high ambient temperatures
  - Compact footprint with rugged enclosures suited for outdoor installations
- Benefits:
- These transformers support efficient energy conversion and grid integration, critical to Africa's renewable energy expansion.

4. Distribution Transformer & Substation Installation Services

- End-to-End Solutions:
- Beyond manufacturing, ArmCoil provides comprehensive site services — including site survey, civil foundation preparation, equipment installation, wiring, testing, and commissioning.
- Safety & Compliance:
- Our installation teams strictly adhere to electrical safety regulations and industry best practices, minimizing downtime and maximizing reliability.

TECHNICAL INSIGHTS & CAPABILITIES

Engineering Excellence & Innovation

ArmCoil's engineering team utilizes the latest design software and simulation tools to optimize transformer and substation performance. Our in-house capabilities include:

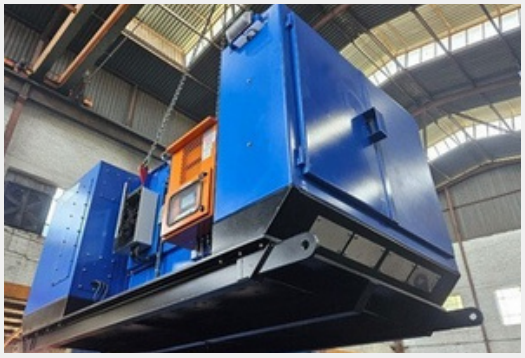
- Finite Element Analysis (FEA) for magnetic and thermal design
- Acoustic noise control measures
- Customized insulation and cooling solutions
- Integration of advanced SCADA and remote monitoring systems

Manufacturing Process

- Core Manufacturing:
- Our transformers feature silicon steel cores with precision cutting and stacking for minimal losses and noise reduction.
- Winding & Insulation:
- We employ vacuum pressure impregnation (VPI) and resin casting for dry-type transformers, ensuring moisture resistance and longevity.
- Quality Control:
- Each unit undergoes rigorous testing, including impulse tests, temperature rise tests, partial discharge measurements, and load loss verification to guarantee performance and reliability.

CASE STUDY: 630KVA 11000/1000V3PH MV UNDERGROUND MINIATURE SUBSTATION

- Delivered custom-designed skid-mounted medium voltage miniature substations tailored specifically for the challenging conditions at Kibali Gold Mine in the Democratic Republic of Congo.
- Incorporated 2x dry-type cast resin transformers rated at 1.6 MVA each, featuring forced air cooling systems to ensure optimal thermal performance under heavy loads.
- Included dual low-voltage compartments for enhanced operational safety and maintenance accessibility.
- Integrated advanced safety systems such as early fire detection and suppression, gas leak detection, and infrared temperature sensors to protect critical equipment and personnel.
- This project highlights ArmCoil's expertise in delivering turnkey, client-specific power distribution solutions that ensure reliable and safe electrical supply in remote and demanding mining environments.
- Click here for the full Kibali Case Study



Get in Touch

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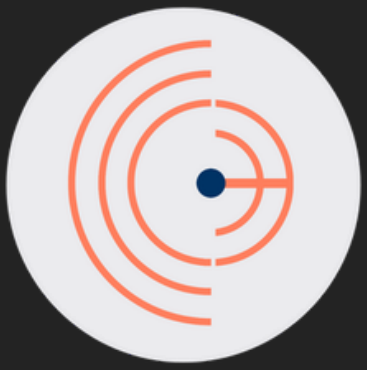

Why Partner with ArmCoil?

- Local Expertise: Deep understanding of African power distribution challenges
- Customization: Tailor-made solutions matching client specifications and site conditions
- End-to-End Capability: From design, manufacturing, to installation and support
- Quality Assurance: Compliance with international standards and certifications
- Reliability: Proven track record in mining, renewables, and industrial sectors