

RED METAL MINING
PROJECT ENGINEERS



ABOUT RMM Established in 2006, Red Metal Mining is a diversified project engineering house, focused on specialised design for mining and associated industries. We are the sub-Saharan agent for leading German cast resin transformer manufacturer, **SGB-SMIT**.

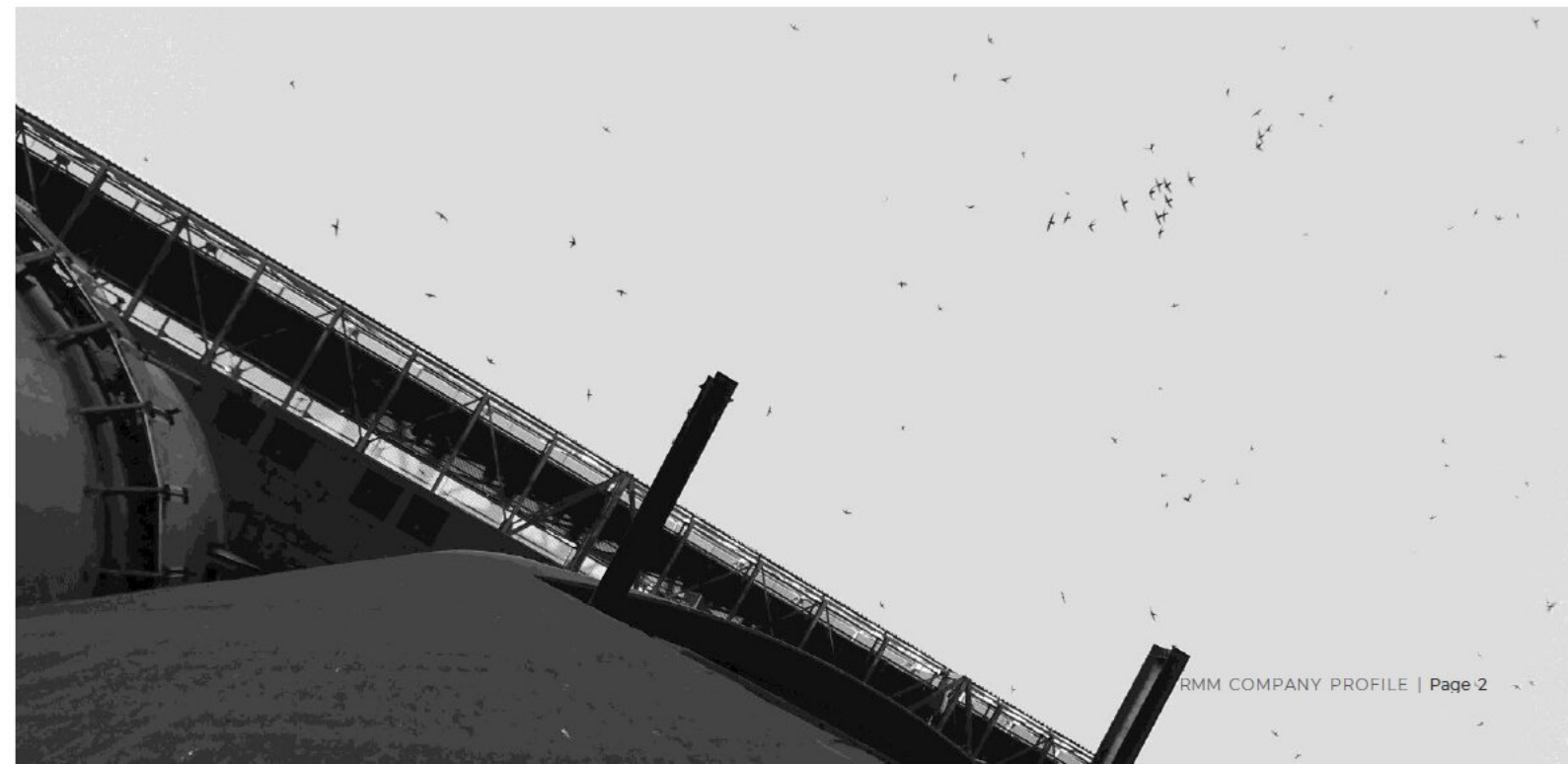
Wherever electricity is generated, distributed, or required, we supply custom solutions, tailored to our clients' exact requirements. We pride ourselves on delivering complete solutions; from concept to development, commissioning and support.

LOCATIONS Our head office, assembly plant, and manufacturing facility is based in Johannesburg, South Africa, and we serve the sub-Saharan market.

- PRODUCTS + SERVICES**
- Cast Resin Dry Type Transformers
 - Cast Resin Mini Substations
 - Oil Type Transformers
 - Oil Type Substations
 - Power Factor Analysis
 - Power Factor Correction
 - LV/MV Panels + MCC's
 - Containerised Solutions

ENGINEERING SOFTWARE We have invested in the latest, world-leading electrical and mechanical software packages to provide our clients with detailed drawing, schematics, and 3D visuals. Our multifaceted engineering team is fluent in:

- EPLAN Electric P8
- EPLAN Pro Panel
- SOLIDWORKS® 3D CAD
- SOLIDWORKS® Flow Simulation



Output range from **50kVA** up to **10 000kVA**

Normal operation at ambient temperatures of -50°C up to 50°C

Customised solutions for individual requirements

- Manufactured in Germany
- Lower losses
- Highest safety standards
- Flame retardant
- Maintenance-free + eco-friendly
- Electrically safe
- No gas inclusions
- Service life of 20+ years
- 90% recyclable transformer material

UNIQUE DOUBLE-LAYER WINDING FROM SGB

- Ensures safe handling of surge voltages.
- Creates extra cooling ducts within the coil to enlarge cooling surface.

3G RATING

- Can be updated for more extreme applications like mining and wind turbines.
- Protects core winding to extended transformer life.

C1
C2

Climate category

E2
E3

Environmental class

F1

Fire resistance class

Range from **200kVA** up to **2000kVA**

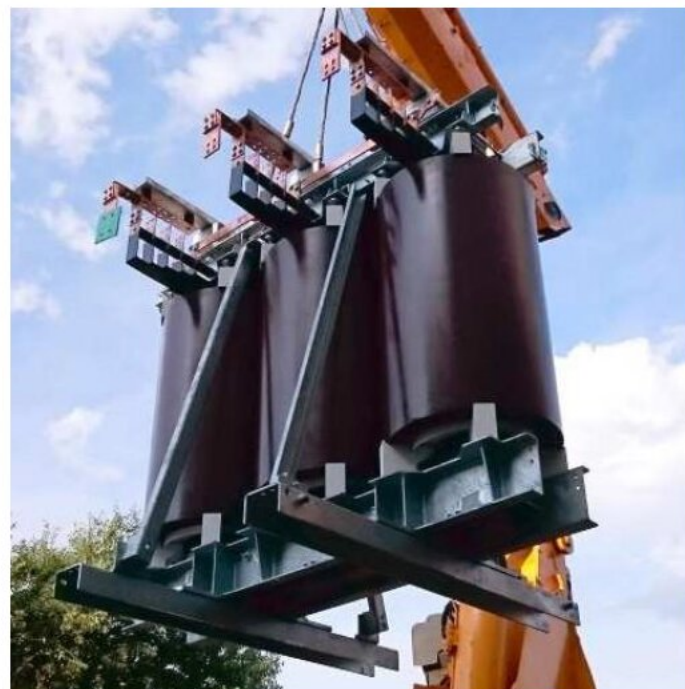
Protection class **IP55**

Customised solutions for individual requirements

- Manufactured in South Africa
- Low maintenance
- Fire class F1 (self-extinguishing)
- Compact design
- Underground + above surface use
- Designed to house the SGB cast resin transformer
- Patent pending on complete closed-loop system design

UNIQUE COMPACT DESIGN BY RMM

- Our underground cast resin mini substation has been specifically designed to fit underground in a man winder cage.
- Whereas conventional cast resin solutions are unable to fit in this cage, due to its cooling system design.



Product range currently offered:

50kva to 5MVA up to 33kV

Our product range includes:

- Distribution Transformers
- Power Transformers
- VPI Dry Type Transformers
- PV Transformers
- Converter Transformers
- Rectifier Transformers
- Auto Transformers
- Single Phase Transformers
- Minisub Transformers for surface and underground, complete with LV breakers and ring main units – SF6 <
- Containerised Substations – custom built to client's requirements

All transformers are fully tested in our state-of-the-art testing facility and comply with the following standards:

- SANS 780
- IEC 60076



Red Metal Mining Group is pleased to announce the opening of our **RMM POWER TRANSFORMERS** division which will manufacture oil type transformers and substations for oil type transformers for both surface/underground application.

RMM has been active in the cast resin market since 2006. Due to the ongoing need for oil type transformers, we have established a manufacturing facility.

Our manufacturing facility in Chloorkop, Edenvale, is housed in a 2500m2 factory with a 10 ton overhead crane.

All manufacturing is done locally in South Africa and we are rated a Level 2 BEE company.

Routine testing done on all transformers manufactured – SANS780 / IEC60076:

- Measurement of winding resistances
- Measurement of voltage ratio and check of phase displacement
- Measurement of impedance of the load and losses
- Measurement of no-load losses and no-load current
- Separate source AC withstand voltage test
- Measurement of insulation resistance
- Tank effectiveness of sealing the transformer

Oil type transformer repairs and rewinding – SANS780 / IEC60076:

We refurbish/rewind all existing types of oil transformers and minisubs at our facility with full documentation and a 12-month warranty period from commission. The coils will be rewound on our winding machines and tested accordingly. All transformer tanks will be sandblasted in-house, as well as wet sprayed and baked in the spray booth located at our premises.

WE OFFER OUR CLIENTS

- Short delivery periods of approx. 6-8 working weeks depending on our manufacturing schedule.
- Option of using either copper or aluminum for the transformer windings.

On-site services available:

- Onsite Oil Purification
- Onsite Oil Regeneration / Testing
- Duty & Performance: Performance in a single pass through the purifier at full flow rate.
- Dielectric Strength Improvement
- Water Removal / Particulate Removal / Gas Removal
- Design: Flow rate of 3000l/h with vacuum booster for improved performance.
- Transformer Audit: Regular oil sampling tests on existing transformers can prolong the lifespan of transformers. Written reports are delivered for each unit tested on site.



ASSEMBLY PLANT

Based in Chlookop

- 3000m²
- Complete with two 10 ton overhead cranes
- FAT testing of mini substations
- Dispatch

MANUFACTURING FACILITY

Based in Chlookop

- 2500m²
- Complete with 10t overhead crane
- Testing facility
- Repair + rewind facility
- Dispatch

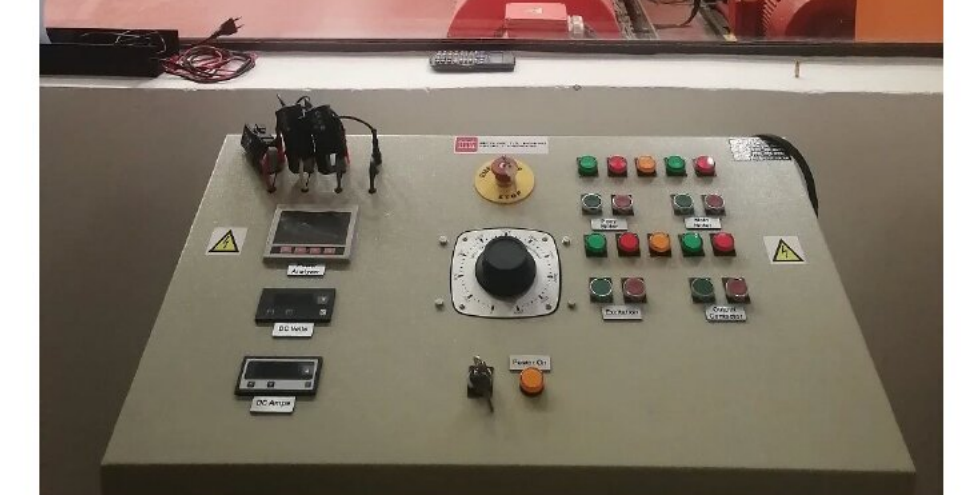
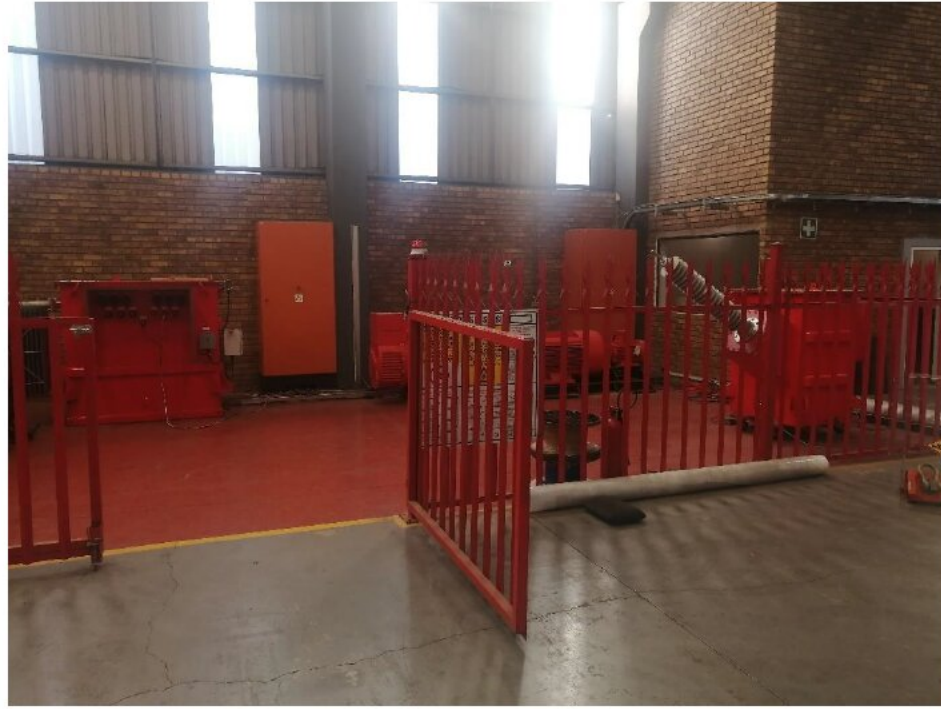
SPECIALISED PACKING

Ensuring maximum safety of products during transportation and delivery

- Heavy duty crate packaging
- Shrink-wrapping



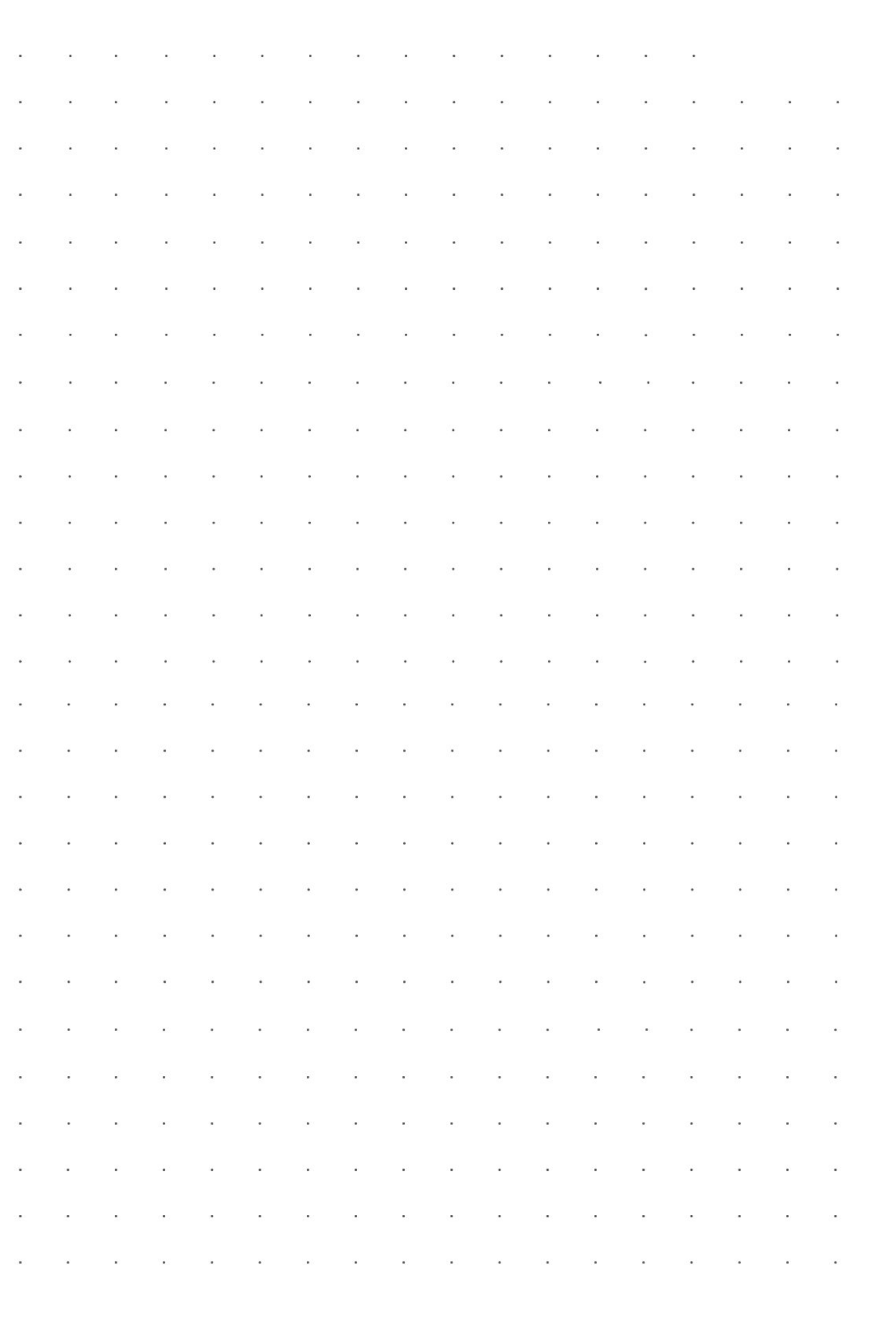
TEST BAY FACILITY

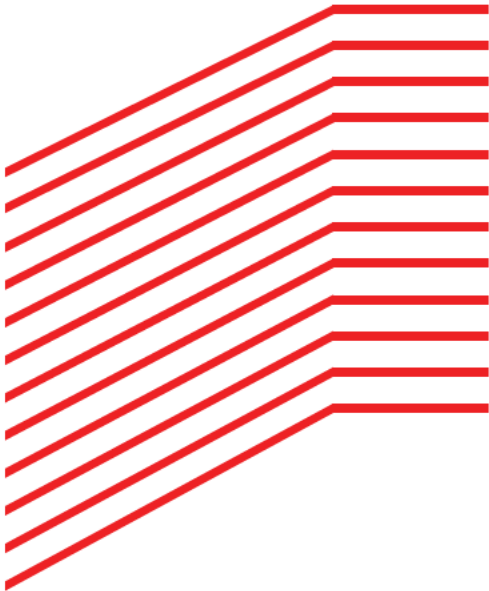


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RMM
ON SITE





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