EASY ELECTRIC MECHANICAL
EST. 1995

Engineering Easy Solutions

Turnkey solutions for furnaces and the heavy industrial engineering sector

We bring fabrication, thermal and electrical insulation, and precision machining together to support furnace component manufacture, refurbishment and heavy industrial projects.

OUR CORE DIVISIONS

01 FABRICATION

02 THERMAL & ELECTRICAL INSULATION

03 MACHINING

Furnace components. Industrial capability. Coordinated service.

COMPANY OVERVIEW

Engineering with purpose.

Easy Electric Mechanical (Pty) Ltd is a Level 2 Broad-Based Black Economic Empowerment company delivering coordinated fabrication, thermal and electrical insulation, and machining services.

Our three divisions bring component manufacture, refurbishment and insulation supply together around project drawings, material requirements and delivery programmes.

OUR VISION

To be a trusted South African partner in furnace and heavy industrial engineering, recognised for practical solutions, quality workmanship and lasting customer relationships.

OUR MISSION

To simplify our customers' engineering challenges through reliable fabrication, thermal and electrical insulation, and precision machining - delivering fit-for-purpose solutions that support safe, efficient operations through quality workmanship, responsive service and on-time delivery.

Turnkey furnace solutions

South African ferrochrome smelting includes closed and semi-closed submerged arc furnaces (SAFs) and directcurrent (DC) arc furnaces. Plant arrangements may incorporate pelletising, sintering and feed pre-reduction systems, requiring equipment matched to the process and operating duty.

Our coordinated offering covers furnace component manufacture, refurbishment, structural repairs and new installations. Specifications account for thermal cycling, abrasion, corrosion, electrical isolation and cooling-water interfaces.

Complete furnace process design and commissioning require a separately defined scope.

01 / FABRICATION

Furnace & structural solutions. 01

New manufacture and refurbishment of furnace components and structures.

- Furnace shells
- Water-cooled smoke hoods and side walls
- Water-cooled electrode seal rings
- Water-cooled feed discharge chutes
- Water-cooled heat shields / covers
- Water-cooled gas offtakes / stacks
- Water-cooled throats and mantles
- Tap-hole panels and spouts
- Furnace ladles
- Ladle tapping wagons
- Chutes
- Feed chutes: chromium carbide & VR400
- Conveyor structures
- Flat wheel forks / brackets
- Slide gates and rotating skirts
- Stingers
- Tap fume ducting
- Structural repairs and new installations

MATERIALS

304L / 316 stainless steel • Boilerplate • Super duplex stainless steel
VRN400, Hardox, Benox and chromium carbide plate
300 WA mild steel / S355JR

IN-HOUSE LASER CUTTING

4 m × 2 m cutting bed, with capacity for 304L / 316L stainless steel up to 16 mm and S355JR up to 20 mm thick.

02 / THERMAL & ELECTRICAL INSULATION

Insulation & material data.

02

Direct-import material supply and cutting to drawings and dimensions. Components for submerged arc and induction furnaces; insulated copper busbars (flexible and bulkheads); fabric and metal expansion joints; gaskets and thermal insulation.

Tubing: G7, G10, G11. Sheets: Mica P, Mica M, SG200 (HST11), GP03, NAD500. Additional material: silicone glass.

MICA P

TEMPERATURE RATING

700°C continuous; 1,000°C peak*

*Peak duration unspecified

DIELECTRIC STRENGTH

24.38 kV/mm at 20°C

IEC 243; S1 value as published

Technical reference: The Gund Company | silicone-bonded phlogopite mica
TGCR 04/2026 | Open source sheet

GPO-3 (listed as GP03)

TEMPERATURE RATING

130°C electrical; 160°C mechanical

UL 746B temperature indices

DIELECTRIC STRENGTH

17.72 kV/mm (450 V/mil)

ASTM D149; perpendicular, short-time in air

Technical reference: Röchling Glastic® UTR Laminate
Technical data sheet v5.0; printed 05/05/2026 | Open source sheet

02 / THERMAL & ELECTRICAL INSULATION

Material data & references. 02

SG200

TEMPERATURE RATING

210°C electrical and mechanical

UL 746B temperature indices

DIELECTRIC STRENGTH

19.69 kV/mm (500 V/mil)

ASTM D149; perpendicular, short-time in air

Technical reference: Röchling Glastic® SG-200 laminate

Technical specifications: product ID 715318 | Open source sheet

NAD 500

TEMPERATURE RATING

500°C continuous

DIELECTRIC STRENGTH

3 kV/mm

Test conditions not stated in source

Technical reference: Pyrotek NAD-500 (NAD-11)

Electrical Insulation Components: DEC-17-E4-1146 | Open source sheet

REFERENCE NOTES

Reference grades only; confirm manufacturer, grade and thickness. Temperature indices are not universal maximum service temperatures; dielectric test values are not working-voltage ratings.

GPO-3/SG200: 1 mil = 0.0254 mm. Mica P SI value reproduced as published; paired imperial value differs. High-temperature dielectric strength and SG200/HST11 equivalence are not established.

03 / MACHINING

Precision components.

03

Machined components and associated services for industrial applications.

- Ladle trunnions
- Suspension links / contact shoe hangers
- Studs and pins
- Drive and non-drive shafts
- Phosphor bronze bushes (PBI)
- Sheave wheels and flat wheels
- Clamp ring pins
- Screw conveyors
- Rollers complete with bearings and pins
- Pinions and gears
- Flanged wheels
- Spacers
- Turnbucks
- Case hardening
- Nitration
- Pulleys complete

MATERIALS

300 WA mild steel • 304L / 316 stainless steel
Phosphor bronze • EN3A-EN24 "T" • Cast iron and cast steel

Let’s talk engineering.

013 656 4492

easymechanic@mweb.co.za

www.easyelectricmechanical.co.za

DIRECTOR

Michael Cane

WORKSHOP ADDRESS

10 Hayden Street, Klarinet
eMalahleni (Witbank)

CLIENT & SUPPLIER REFERENCES

SAMANCOR	FERROGLOBE	TRANSALLOYS
4019756	**EC22**	**EASOO5**