

TungGuard™ MIG Carbide System



Embed tungsten carbide with a GMAW-based system built for real-world wear.

TungGuard™ MIG Carbide System feeds tungsten carbide into the weld pool to create a highly abrasion-resistant composite overlay.

With Postalloy® PS98WC Matrix wire and sintered carbide chips, it helps extend service life and cut downtime and replacement costs.

TungGuard™ MIG Tungsten Carbide

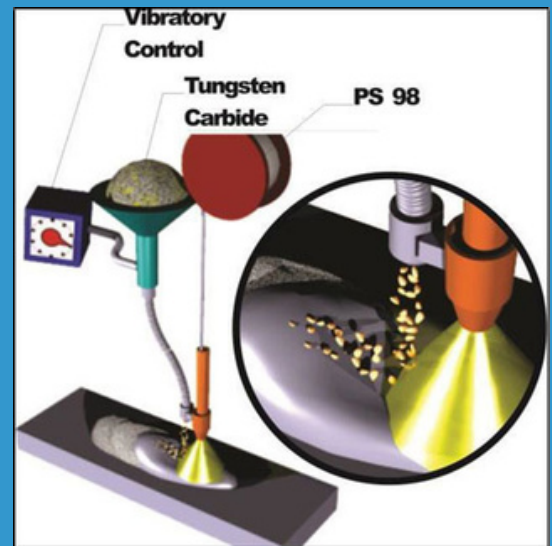
Sintered Tungsten Carbide

Consistent Carbide for Consistent Performance

Not all carbide is equal. Inconsistent particle size or density can cause weak bonding and uneven wear.

Postalloy® Sintered Tungsten Carbide is Engineered to:

- Provide **uniform particle size and density**
- Deliver **high hardness** for severe abrasion
- Bond reliably in MIG carbide embedding so particles stay locked in place
- Extend service life and help reduce downtime and replacement costs
- The result: a carbide that performs reliably, weld after weld.



How It Works

Carbide is loaded into the top hopper, where the vibratory action moves it through a controlled trough into a lower hopper, keeping the flow steady and preventing clumping. From there, the carbide is fed through the hose to the gun shroud, where it drops into the molten weld pool. The control box dial adjusts power to the feeder and sets the carbide feed rate into the weld pool, so you can fine-tune how much carbide is delivered for each application.

PS98WC Matrix by Postalloy®

Matrix Wire Designed for MIG Carbide Embedding

Postalloy® PS98WC Matrix wire is built specifically for tungsten carbide embedding, unlike ordinary soft-steel wires.

Key Benefits:

- **55–59 Rc** matrix hardness to protect carbide (**>75 Rc**)
- Clean, fluid weld bead that easily accepts carbide grit
- Even carbide distribution throughout the deposit
- Suitable for **carbon**, **low alloy**, and **manganese** steel

Placement & Controls:

- Place feeder on a stable elevated surface 3 to 6 feet from the work surface, anchor if needed.
- Hopper dispenses carbide through a tube attached directly to the mig gun nozzle.
- **Dial:** 1 = very low, 10 = very high (start at **4–5**).
- Ensure no magnetic clamps or grounding are used, as they can interfere with the automatic controls.

Toggle Switch:

Manual Feed – continuous feed, dial-controlled.

Auto Feed – with reed switch installed, feeder turns on with the arc and off when welding stops.

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Welding Technique & Best Practices



Technical Snapshot: Welding with TungGuard™

- **Shielding gas:** high-argon mixes, typically **98% Ar / 2% O₂** or **95% Ar / 5% O₂**
- **Layers:** use **single-layer overlays**; multi-layer builds can remelt carbide and create a brittle deposit
- **Weave:** weave or oscillate about **½"-1" (12-25 mm)**, or wider as needed
- **Aim point:** drop carbide into the last **½" (6 mm)** of the molten weld pool, not directly into the arc
- **Preheat:** follow material best practices; high carbon/HSLA and wear plate (AR450, AR500) may require preheat
 - Typical GET preheat: **302°F (150°C)**
- **Recycling:** about half of the carbide in the feed tube enters the weld pool—collect, screen, and reuse excess where appropriate



System Contents & Product Codes

TungGuard™ System Contents

- Hopper assembly with vibratory feeder and control box
- Integrated removable carbide hopper
- Vibratory feed chute
- Dispensing neck
- Current-sensing reed switch with optional foot pedal
- Heat-resistant feed tube

Product Codes

110V unit – MIGUNIT110

220V unit – MIGUNIT220

Postalloy® TungGuard™ MIG Carbide System with Postalloy PS98 Matrix Wire.
The complete carbide-embedding solution for ultimate abrasion resistance.

