POWERBALL
TIPS & DIFFUSERS

LONG LIFE • HIGH CONDUCTIVITY • SUPERIOR COOLING
PATENT PENDING POWERBALL TIP & DIFFUSER DESIGN

POWER
TORCH LINER

SUPERIOR FEEDABILITY • LONG LIFE • WILL NOT SHAVE WIRE
PATENT PENDING ELLIPTICAL WIRE LINER

www.wire-wizard.com
Wizard Torch Products PowerBall™ Torch Tips & Diffusers provide a copper-to-copper-to-copper assembly for maximum conductivity and performance. The torch tip seats firmly in a copper insert within the diffuser with a smooth elliptical end. Traditional tip designs lose conductivity at this connection point since they are typically flat or tapered. Boost the power of your torch with PowerBall™ Tips & Diffusers! Patent pending design.

**Features & Benefits:**

- Better conductivity creates a longer lasting, high performance tip with additional energy saving benefits
- Gas distribution & cooling chamber in the PowerBall™ diffuser provides optimum cooling and prevents gas flow turbulence
- Buttress threads provide high torque with more contact surface
- Reduces arc start failures and downtime
- Fully rounded PowerBall™ tips help prevent spatter build-up and burn backs
- Tips and diffusers available for all major domestic and imported torch manufacturers

**REAL Before & After Results**

<table>
<thead>
<tr>
<th>Test Description</th>
<th>Before Retrofit</th>
<th>After Retrofit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact Tip Usage Per Day (per torch)</td>
<td>2-6 tips</td>
<td>1-3 tips</td>
</tr>
<tr>
<td>Average Amperage (A) &amp; Variance</td>
<td>235 +/- 12 amps</td>
<td>231 +/- 3 amps</td>
</tr>
<tr>
<td>Average Volts/Trim (GMAW-P) &amp; Variance</td>
<td>25.5 +/- 1.5 volts</td>
<td>24 +/- 0.2 volts</td>
</tr>
<tr>
<td>Amount of Spatter</td>
<td>Moderate</td>
<td>Minimal</td>
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</tbody>
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**WELDING PARAMETERS**

- Wire Size: 0.45” (1.1mm)
- Wire Type: Solid Steel (Cu coated), ER70S-6
- Packaging: 30 lb spools & 500 lb boxes
- Welding Mode: MIG (GMAW-P)
- Wire Feed Speed: 260-300 IPM
- Gas: 90/10% Ar/CO2 @ 40 cfm

“Wire Wizard has exceeded my expectations. If I were to design a contact tip, this is how I would do it.”

Rod Weber – Welding Engineer, Douglas Autotech

**Patent pending**

“Tips available for all wire sizes up to 3/32” (2.4mm)”
Wizard Torch Products E-Power™ Torch Liners are designed to provide superior feedability with a low skid friction. The spring liners are made with a helically wound elliptical wire with a proprietary coating that both reduces friction and eliminates wire shaving. The result is a durable, long-lasting torch liner that will reduce costly downtime caused by wire feeding issues. Patent pending design.

**Features & Benefits:**

- Patent pending Elliptical Wire with proprietary coating reduces skid friction and eliminates wire shaving
- Long life due to less friction and reduced wear
- Durable outer jacket extends 60” (1524 mm) to minimize gas loss at back of the torch
- Reduces costly downtime caused by wire feeding issues
- Color coded heat shrink for easy identification:
  - White: .030 - .045 (0.8-1.2mm)
  - Red: .045 - 1/16 (1.2-1.6mm)
  - Blue: 5/64 (2.0mm)
  - Black: 3/32 (2.4mm)
- Liners available for all major domestic and imported torch manufacturers
- Heat resistant durable polymer liners also available

**It’s Simple: Smooth Wire=Smooth Delivery!**

Smooth wire liner coating used on E-Power™ Torch Liners (right) in comparison to typical galvaneel coating on a competitor’s torch liner (left) – magnified view of wire on liner interior.

**Wire Friction Pull Test Results**

In this test, 15 ft (4.6m) of torch liner was wrapped around three times in a circular radius and .045 steel wire was pulled through by the wire feeder at a rate of 175 IPM.

**Competitor**
- .045 wire / 175 IPM
- Average: 6.32 lbs
- Maximum: 7.98, Minimum: 4.34

**E-Power™ Liner**
- .045 wire / 175 IPM
- Average: 1.80 lbs
- Maximum: 2.34, Minimum: 1.12

**72% LESS FRICTION!**
**Buttress Threads: Strong Enough to Fire a Bullet!**

PowerBall™ Torch Tips feature high torque buttress threads to provide more contact surface and a secure connection that will not loosen upon impact. Buttress threads are designed to handle extremely high axial thrust in one direction and are the same threads used in guns and artillery. They also create an ideal connection point between the tip and diffuser to prevent tip locking caused by the uneven expansion of copper and brass.

**Stays Cool and Goes with the Flow**

The Gas Distribution and Cooling Chamber featured on PowerBall™ Diffusers provides optimum cooling for longer tip life and even gas flow to prevent excessive turbulence around the weld pool. The smooth elliptical end connecting the tip to the diffuser maximizes the contact surface to provide superb conductivity with low resistance.

**A Well-Rounded Design**

The fully rounded tip design on PowerBall™ contact tips provides enhanced protection against spatter build-up, helping to reduce burn backs that can cause excessive downtime. The photos below show the reduced spatter build-up on the tip after heavy use, as well as less discoloration due to superior cooling.

Even after a full shift of heavy welding, the spatter build up on the PowerBall™ Torch Tip is minimal.

**Semi-automatic Application Details:**
0.045 (1.1mm) steel wire & 38mm heavy duty PowerBall™ Tip and Diffuser

**Robotic Application Details:**
0.045 (1.1mm) steel wire & 38mm standard PowerBall™ Tip and Diffuser