

# Tru Temp® Mid-Temperature Black Oxide



Safe, simple in-house 200°F black oxide process  
replaces hazardous, high temp black oxide.

# The Smart Option

For Part Finishing – Tru Temp® Mid-Temperature Black Oxide



## High Quality Black Magnetite Finish.

The patented Tru Temp process forms a durable, non-dimensional black magnetite finish on all iron and non-stainless steels. The satin black finish is RoHS, Mil Spec, and ISO compliant and replaces conventional high temp black oxide on tools and machine components of all types.

## Safe, Simple Process. No Experience Needed!

Operating at 200° F, the Tru Temp mid-temperature black oxide process is 100 degrees cooler (and about 100 times safer!) than ordinary black oxide. No splattering or boilover. No salt bleed out. No EPA regulated content. Process rinse waters generally sewerable as non-hazardous discharge (you may need a discharge permit). The system installs easily without endangering your employees or equipment.

## In-House Tru Temp Line Lowers Costs.

In-house blackening lets you optimize the quality, scheduling and costs of your part finishing. Just as important, it streamlines workflow, lowers inventory levels, speeds shipments and enhances ISO compliance – all critical for satisfying key customers. There are also indirect

cost savings in related areas – purchasing, payables, sorting/packing/shipping. More than ever, an in-house Tru Temp system makes good customer-service sense and good economic sense.

## Process Lines Available at Modest Cost.

Birchwood Technologies can supply complete process lines, sized to fit your part size and volume, at modest cost. See pages 5 & 6 for details.

## Configurable for Near-Zero™ Water Recycler.

This system utilizes special filters to make the rinse waters re-usable, reducing the total water consumption by 99%. See page 7 for details.

## We Train Your Operators.

We provide training and follow-up tech support to keep your system running smoothly.

*See our website for full info, videos and online ordering [www.birchwoodtechnologies.com](http://www.birchwoodtechnologies.com)*

*Or call us at 952.937.7931 to speak with one of our technical representatives.*

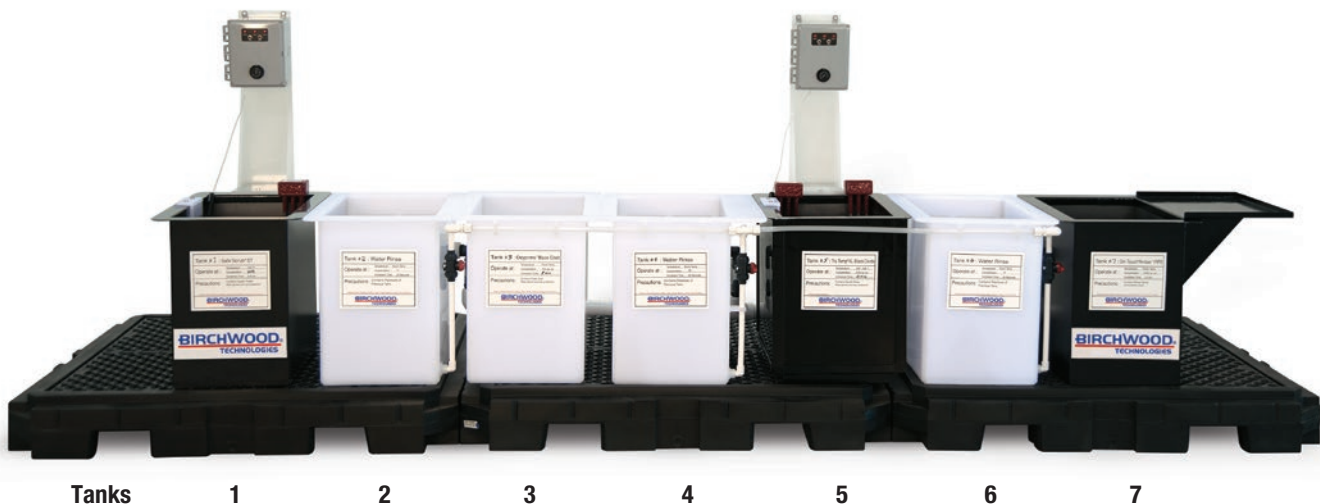
# Tru Temp® Black Oxide Tank Systems

## Compare Tru Temp® to Hot Oxide

COMPARE	Tru Temp® Mid Temperature Black Oxide	Ordinary Hot Oxide High Temp Black Oxide
<b>Finish Quality</b>	Durable, Satin Black Magnetite ..... 0.000020" Uniform Thickness ..... Corrosion Resistant ..... RoHS, Mil Spec, ISO Compliant ..... No Salt Bleed Out .....	Durable, Satin Black Magnetite ..... 0.000020" Uniform Thickness ..... Corrosion Resistant ..... RoHS, Mil Spec, ISO Compliant ..... Salt Bleed Out Common .....
<b>Process Line</b>	200 degree Non-Boiling Bath ..... No Splattering, Boilover ..... Minimal Sludging ..... Electrically Heated ..... 25 Minute Process Time ..... Rinsewaters usually Sewerable .....	290 degrees at a Rolling Boil ..... Constant Boilover & Burn Hazard ..... Heavy Sludging & Tank Scaling ..... Gas-Fired Tanks with Open Flame ..... 45-60 Minute Process Time ..... Rinsewaters Require Waste Treat .....
<b>Applications</b>	All non-Stainless Steels ..... Cast Iron ..... Powdered Metal ..... Rack/basket/barrel Lines .....	Most Steels (some turn red) ..... No Cast Iron (turns red) ..... No Powdered Metal (salt bleed out) ..... Rack/basket/barrel Lines .....
<b>Corporate</b>	No EPA Problems ..... Safe to Operate ..... Operator Friendly ..... Low Corporate Liability .....	Waste Treat Required ..... Highly Hazardous ..... Operators Hate It! Bad for Morale ..... High Liability and Insurance Rates .....

The Tru Temp process utilizes seven steps and takes about 25 minutes:

1. CLEAN: 150° F; 8 minutes
2. RINSE: Clean water at Room Temp; 20 seconds
3. OXYPRIME Primer/Prep: Room Temp; 2-10 minutes
4. RINSE: Clean water at Room Temp; 20 seconds
5. Tru Temp Black Oxide: 200° F; 15 minutes
6. RINSE: Clean water at Room Temp; 20 seconds
7. SEAL: 70-130° F; 1 minute.





# Tru Temp® Examples

Hand tools, cutting tools, hydraulic equipment, oil & gas components, automotive and all types of machine tool components.



## Tru Temp® Compared to Hot Oxide



Tru Temp produces rich black on iron parts. Hot Oxide used on cast iron parts turns red.



Tru Temp does not produce salt bloom on powdered metal. Hot Oxide creates salt bloom, especially in recesses.



Tru Temp creates rich black over powdered metal. Hot Oxide creates considerable salt bloom.

# Tru Temp® Black Oxide Tank Systems



## The BC100 Tru Temp Line.

100 gallon tank system, pre-engineered and ready for fast set-up and operation.

The system utilizes seven tanks, each measuring 24" x 40" x 28.5" deep with 100 gallon operating capacity, with a 4' x 20' footprint. Shown with optional spill containment. Ruggedly constructed of mild steel or welded polypropylene, with all necessary heaters and plumbing connectors. An owner's manual guides the user through assembly, startup, operation and maintenance, with tech support from Birchwood Technologies. Call for details and pricing.



## The BC40 Tru Temp Line.

Similar to the BC100 system in design and construction, but with seven 40-gallon tanks, each measuring 16" x 24" x 24" deep, with a 3' x 15' footprint. Shown with optional spill containment.

# Fully Automated Tru Temp® Systems

## CNC Controlled Tru Temp Line.

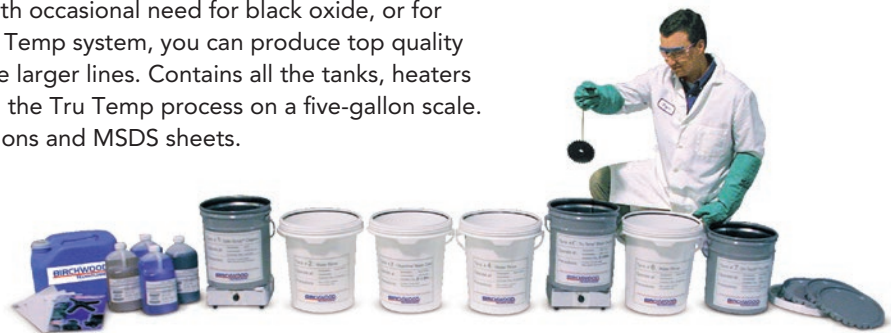
An automated blackening machine, designed and sized to accommodate any part size and volume and fully programmable to automatically carry out all the functions of the process line – even replenish the tanks! The big benefits are consistent operation, high throughput (up to five loads/hour) and elimination of labor costs normally required for manual hoist lines. These CNC process lines have an attractive ROI and are supplied completely installed, with on-site operator training. Please call our experts to discuss further.



## Small Volume, Prototype Scale or Customized Tru Temp® Lines

### BK-TT Mini Tru Temp Line

The ideal low cost system for job shops with occasional need for black oxide, or for prototype scale testing. With the Mini Tru Temp system, you can produce top quality black oxide finishes in minutes, just like the larger lines. Contains all the tanks, heaters and chemical products needed to operate the Tru Temp process on a five-gallon scale. Shipped with complete operating instructions and MSDS sheets. Order by phone, or on our website!



### Customized Tru Temp Tank lines

Birchwood Technologies custom built to any size, with almost any feature you might need, to fit your part size and work volume. Please call our experts to discuss your application.



# Water Recyclers for Tru Temp® Lines



## Smaller Recycler

Designed for use on BC40 and BC100 size tank lines.

## NEAR-ZERO™ Water Recycler

The NEAR-ZERO™ Water Recycler Reduces Water Consumption by 99%. By adjusting the pH of the water and removing oil/detergent residues, the rinse water can be re-used for about a month. Then, the rinse tanks are purged and refilled with clean water.

To put this into perspective, a "standard" BC40 line, operating one shift per day, uses over 30,000 gallons of water per month. A BC100 line uses about 60,000 gallons. For most plants, the cost of the water is minimal, but a city sewer connection is needed for successful operation.

The NEAR-ZERO Recycler reduces water consumption to about 300-600 gallons per month – a 99% reduction! This is great news for plants on septic systems, or in smaller municipalities with limited sewage capacity, or for companies that install the line in a warehouse space.

Use the smaller system, shown at top, for smaller lines. The larger system, below, has more automatic features, for larger installations.



## Larger Recycler

Designed for tank lines of 100-300 gallons in size.

Contact us for more details, specs and prices.

Tel: 952.937.7931 Email: [info@birchwoodtechnologies.com](mailto:info@birchwoodtechnologies.com)  
[birchwoodtechnologies.com](http://birchwoodtechnologies.com)

# Ask Us About...

- Custom Tank Lines • Automated Tank Lines
- 40 & 100 Gallon Tank Lines • 5-Gallon Mini Kits
- Ion Exchange & Near-Zero Water Recycler Options

## 40 & 100 Gallon Process Lines

Completely pre-engineered, ready for fast setup and operation. Each system is shipped with complete operating instructions including test kit, owners manual and maintenance log.



## 5-Gallon Mini Kits

The ideal low cost system for those just-in-time jobs that must be out today. With a 5-Gallon Mini System you can produce great looking parts in just minutes.



## Ion Exchange System Zero Discharge System

Purify and recycle the rinse waters, resulting in a "closed-loop" zero-discharge installation. The technology is available for all size systems, including 40-gallon, 100-gallon and larger capacity custom tank systems.

**Free Sample Finishing to Evaluate Options:**  
[birchwoodtechnologies.com/sample/](http://birchwoodtechnologies.com/sample/)

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