



Metal Finishing Systems

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TRU TEMP® XL Low Temperature Black Oxide
(Patented)

Operating Instructions

PRODUCT DESCRIPTION

TRU TEMP® XL Low Temperature Black Oxide Process operates at 200° F and forms a durable black oxide finish on all iron and non-stainless steels.

The TRU TEMP XL is used as part of a two-stage chemical reaction, beginning with the deposition of OXYPRIME® Primer Coat, which is then oxidized to form the black magnetite finish. The black finish can be sealed with an appropriate rust preventive topcoat for optimum appearance and corrosion resistance.

OPERATING CONDITIONS

Bath Make-Up	TRU TEMP XL at 50% by volume in tap water.
Operating Temperature	200-205° F.
Equipment Construction	Tank: Mild or stainless steel, with 1-2" insulation. Heater: 304 stainless immersion heater. 200 watts per gallon of bath. Racks, baskets, barrels: Mild steel, Polypro. Avoid stainless steel racks, baskets Stainless steel barrels are OK; 1-2 rpm rotation
Bath Circulation	Desirable. Use a stainless steel pump or impeller.
Ventilation	Desirable (fumes have no chemical content)
Refill of Evaporative Losses	Desirable: Deionized or RO purified water.
CAUTION	Keep all forms of copper, brass, zinc & aluminum out of the bath.

BLACKENING PROCEDURES

The TRU TEMP XL Black Oxide process utilizes the following sequence:

1. **CLEAN** parts in PRESTO KLEEN ® HP cleaner; 150° F; 8 minutes.
2. **RINSE** in clean flowing water; 30 seconds.
3. **APPLY PRIMER** in OXYPRIME® solution; Room Temp; 2-10 minutes.
4. **RINSE** in clean flowing water; 30 seconds.
5. **BLACKEN** in TRU TEMP XL bath; 200-205° F; 10-15 minutes.
6. **RINSE** in clean flowing water; 30 seconds.
7. **SEAL** in a rust preventive topcoat appropriate to the end use of the article:
Use DRI TOUCH® AMBER IRP2 solvent-based sealant for dry-to-touch finish;
Or, SHEATH® WS12 water-soluble oil at 15% by vol; 130° F for oily finish.

BATH MAINTENANCE

As the TRU TEMP bath operates, its concentration will gradually diminish. In addition, there will be a significant loss of water to evaporation. Both these components must be replaced in order to keep the bath operating normally. Normal maintenance calls for daily additions of clean water (DI or RO water is preferred) with stirring, to restore normal operating levels. Then, the bath can be titrated for total alkalinity, or tested with the GO/NOGO Test Kit, to determine the strength of the solution and the quantity of replenishment needed.

CAUTION: Keep all forms of copper, brass, zinc and aluminum out of the tank.

Before Using This Product – Please Read, Understand and Follow all the Precautions shown on the Product Label and on the Material Safety Data Sheet.

**The Material Safety Data Sheet is found on our website: www.birchwoodcasey.com
Use Appropriate Hazard Labels on any Container used to Store or Apply this Product.**

NOTE: The information contained herein is provided in good faith and is believed to be correct. However, Birchwood Laboratories, Inc. makes no representation as to the comprehensiveness or accuracy of the information. It is believed that individuals will exercise their independent judgment in determining its appropriateness for a particular purpose. Birchwood Labs, Inc. is not responsible for damages of any kind resulting from the use of or reliance upon such information.

TRU TEMP® XL Black Oxide Concentrate (Product Numbers 611351, 611358)

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