

## **e-Black Solutions**

13 WHITEHALL LANE, CAMBRIDGE, ONTARIO, CANADA N1R 8N3

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## **THE BLACKFAST PROCESS**

When the specification called for Black Oxide, the traditional procedure was to send your component parts out to a metal finishing house. This could lead to numerous complications, downtime and expense.

**e-Black Solutions** is pleased to present an alternative solution that actually works.

**Blackfast** offers an extremely simple, easy-to use, safe, and cost-effective process for blacking iron & steel components in-house at room temperature. The operator requires minimal training, and there is no prior chemical knowledge needed. The primary solutions utilized in the blacking process are of a water base, thus limiting safety & environmental hazards. Rinse water effluents are well within compliance of by-law guidelines of most municipalities.

The **Blackfast** *simple dip* process is done in minutes, in plastic tubs.

**Blackfast** has been the industry leader of conversion blacking in Europe for over 24 years and is now distributing the simple process in North America. This blacking & corrosion inhibiting procedure is used in the manufacture of machine tools, tool holders, cutters, industrial machinery and precision metal components.

### **WHY DO YOUR OWN IN-HOUSE BLACKING? Reduce down time**

- Sending out for hot black oxidizing can take days to weeks.
- Assembly of machinery held up waiting for components to return from outsource & missing parts upon arrival.
- You & your customers are waiting, inconvenienced and losing money.
- Employees waiting for parts to resume productive effort.
- The process can be carried out by junior staff requiring no chemical knowledge.

### **Avoid sending components out**

- Incurred Shipping & Handling Costs.
- Use of company truck & employee.
- Paper work and administration.
- P.O.s and Cheque issuing.
- Wasted time tracing outsource items.
- Mixed up job lots.
- Loss of control of your own productivity

### **In-House Quality Control**

- Consistent deep black finish.
- Eliminate damage due to tumbling your parts with those of other hot oxide clients.
- No more re-machining, re-tapping, cleaning, checking critical dimensions upon return from outsource.
- No more creeping white salt corrosion.

DISTRIBUTOR OF GENUINE BLACKFAST PRODUCTS  
Blacking of Iron and Steel, In-house at room temperature

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- Blackfasted parts assemble easily with no thread binding or bolt snapping.
- Excellent anti-galling properties.
- In-house operations contribute to ISO compliance & certification.

### Minimum Charges for Out Source Hot Black Oxiding

- Cost from \$ 75 to \$ 150 per order.
  - Blackfast total chemical cost is <15 cents per square foot of surface area. ·
- Calculate the surface area of your typical parts and compare.

### Blackfast will blacken:

Any ferrous metal; carbon steel; mild steel; tool steel; high speed steel; steel hardened to 60 Rockwell; steels with less than 12% nickel or chrome content; surface hardened items; cast iron; ductile iron; forged steel.

### Blackfast will not blacken:

Stainless steel; rust resistant metals; brass; metals > 12% nickel / chrome; metals harder than 60 Rockwell; metals with any trace of oil or rust inhibitors; or red rusted metals.

### NO DIMENSIONAL CHANGE

The converted black surface is between 1.5 and 3 microns in thickness.

The degree of thickness is proportionate to the degree of microscopic variance in the machined surface prior to blacking. The surface conversion actually corrects some microscopic imperfections in the component. There is no change to the hardness of the material. The chemical description of the process is "An Inert Copper Selenoid Phosphate".

### CORROSION RESISTANCE

The **Blackfast** process provides corrosion protection that surpasses that of the traditional hot black oxide method. The corrosion protection is afforded due to the holding ability of the microcrystalline converted surface. The bound microcrystalline black surface adheres applied corrosion inhibitors to the surface for a longer period of time. The effect is a long lasting humidity barrier which hampers oxidation.

Recent testing resulted in no corrosion after **244 hours of humidity cabinet** exposure & significant corrosion only after **48 hours of salt spray**, using our standard 833C dewatering oil. Heavier inhibitors are available offering further protection. (Traditional Hot black oxide test results typically range from 48 to 120 hours humidity cabinet only.)

### How does **BLACKFAST** differ from the other room temperature blacking (Gun Bluing) products on the market?

**Blackfast** will provide consistent true black results. The **Blackfast** process is scientifically engineered to give optimum results without having to rely on the skill of the person performing the process. It is not the same old "Bucket in the corner" product and result that people relate to cold blacking. The **Blackfast**

system offers limited environmental concern and the chemicals are much milder than those of conventional chemical black products. "Competitive" products are highly corrosive and bear the corrosive

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label. **Blackfast** blacks in seconds as opposed to 2 – 4 minutes. Blackfast baths are near neutral ph and are more stable and easier to control.

### THE BLACKFAST PROCESS

There are 4 main steps to the Blackfast process with a rinse between each of:

Clean	5 – 20 minutes	Dilutes 1 to 1 part Water – 50%
Condition	10 – 30 seconds	Dilutes 1 to 9 parts Water – 10%
Blacken	15 – 60 seconds	Dilutes 1 to 3 parts Water – 25%
Dewater/Protect	15 – 20 minutes	Used Straight – 100%

### PRICING (CANADA IN \$CAD)

#### SMALL BLACKFAST SYSTEM - 20 LITRES OF WORKING CHEMICAL

10 LITRES (2.64 US GAL.), 716C LIGHT ALKALINE CLEANER	\$ 112.30 (2 x \$56.15)
5 LITRES (1.32 US GAL.), 551 CONDITIONER	\$ 113.09
5 LITRES (1.32 US GAL.), 181 BLACKING AGENT	\$ 145.45
20 LITRES (5.28 US GAL.), 833C DEWATERING OIL/INHIBITOR	\$ 210.16
<b>TOTAL:</b>	<b>\$ 581.00<sup>1</sup></b>

You would supply your own 7 polypropylene or polyethylene, >20 litre (5.28 US Gal.) capacity tubs with lids. We would provide tank labels, thermometer strips & material safety data sheets.

20 LITRE (5.28 US GAL.), COMPLETE WITH 7 PAILS & 7 LIDS	<b>\$ 665.50<sup>1</sup></b>
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**20 Litre Blackfast Blacking System from e-Black Solutions**



20 Minutes    1 Minute    15 Seconds    1 Minute    30-60 Seconds    1 Minute    20 Minutes

Prices billed in Canadian Dollars

<sup>1</sup> A \$55.00 Shipping & Handling charge will be added to your order within Ontario. FOB Milton, ON, Canada

Outside Ontario, Collect or Prepaid & Charged. Applicable HST/GST will be added.

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### PRICING (U.S.A. IN \$USD)

#### SMALL BLACKFAST SYSTEM - 20 LITRES OF WORKING CHEMICAL

10 LITRES (2.64 US GAL.), 716C LIGHT ALKALINE CLEANER	\$ 104.38 (2 x \$52.19)
5 LITRES (1.32 US GAL.), 551 CONDITIONER	\$ 101.89
5 LITRES (1.32 US GAL.), 181 BLACKING AGENT	\$ 126.75
20 LITRES (5.28 US GAL.), 833C DEWATERING OIL/INHIBITOR	\$ 180.19
<b>TOTAL:</b>	<b>\$ 513.21<sup>1</sup></b>

You would supply your own 7 polypropylene or polyethylene, >20 litre (5.28 US Gal.) capacity tubs with lids. We would provide tank labels, thermometer strips & material safety data sheets.

20 LITRE (5.28 US GAL), COMPLETE WITH 7 PAILS & 7 LIDS	<b>\$ 593.21<sup>1</sup></b>
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**20 Litre Blackfast Blacking System from e-Black Solutions**



20 Minutes    1 Minute    15 Seconds    1 Minute    30-60 Seconds    1 Minute    20 Minutes

Prices billed in United States Dollars

<sup>1</sup> Full shipping & Handling Charge will be added to your bill. FOB Buffalo, NY, USA

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