

BLACKFAST

Room Temperature Blacking

ENVIRONMENTALLY FRIENDLY,
COST EFFECTIVE,
EASY-TO-USE

Never Outsource Black Oxide Again

Previously when Black Oxide was required, your parts would be sent out to a metal finishing house, leading to numerous complications, downtime and expense.

e-Black Solutions is pleased to present a room temperature solution that exceeds the traditional Black Oxide criteria.

Blackfast offers an extremely simple, easy-to-use, safe, and cost effective process for blacking iron and steel components in-house at your facility.

The primary solutions utilized in the blacking process are of a water base, thus limiting safety and environmental hazards.

The operator requires minimal training, and there is no prior chemical knowledge needed.

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

Blackfast has been the industry leader in Europe of conversion blacking for over 22 years and is the superior process in North America for over 8 years. This blacking and corrosion inhibiting¹ procedure is used in the manufacture of machine tools, tool holders, cutters, industrial machinery and precision metal components.

¹ASTM D1140 Humidity Cabinet Test 500 Hours
ASTM B117 Salt Spray 48 Hr. (MIL-L-3150)

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.
- Blackfast's simple, set-up is always instantly ready to use at room temperature and waiting to perform for you.
- The process can be carried out by junior staff requiring no chemical knowledge.

Avoid sending components out

- Incurred Shipping and Handling costs.
- Use of company truck and employee.
- Paper work and administration.
- P.O.s and Check issuing.
- Wasted time tracing outsource items.

- Mixed up job lots.
- Loss of control of your own productivity.

In-House Quality Control & Benefits

- 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.
- Excellent anti-galling properties.
- No hydrogen embrittlement.
- In-house operations contribute to ISO compliance and certification.

Minimum Charges for Outsourced Hot Black Oxiding

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

BLACKFAST WILL BLACKEN:

Any ferrous metal; steel hardened to 60 Rockwell; steels with less than 12% nickel or chrome content; surface hardened items; cast iron; and forged steel.

BLACKFAST WILL NOT BLACKEN:

Stainless steel; rust resistant metals; brass; metals greater than 12% nickel / chrome; metals harder than 60 Rockwell; metals with any trace of rust inhibitors on them.

NO DIMENSIONAL CHANGE

The converted black surface is between 1.5 and 2 microns in thickness. 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. This 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.

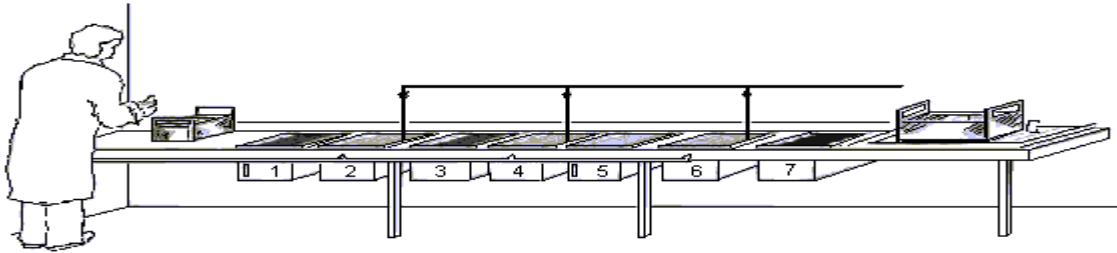
Recent testing resulted in no corrosion after **500 hours of humidity cabinet** exposure and significant corrosion only after **48 hours of salt spray**, using our standard # 833C Dewatering Oil. Traditional Hot Black Oxide test results typically range from 48 to 120 hours humidity cabinet only.

e-Black Solutions provides training and continued technical support to ensure superior client satisfaction.

THE BLACKING PROCEDURE IS OUTLINED IN THE FOLLOWING 7 SIMPLE STEPS:

1 **2** **3** **4** **5** **6** **7**
CLEAN - **RINSE** - **CONDITION** - **RINSE** - **BLACKEN** - **RINSE** - **OIL**
15 Mins.* 1 Min. 15 Secs.** 1 Min. 30 – 60 Secs. 1 Min. 15 Mins.***

SMALL ROOM TEMPERATURE BLACKING SYSTEM



* Can be reduced to 1 minute ** Can be eliminated for some metals *** Can be reduced to 1 minute

Certain limitations apply.

THE BLACKFAST PROCESS

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

Cleaning (716C) **10 – 20 minutes**
(Dilutes 1 to 1 part Water – 50%)

Conditioner (551) **5 – 15 seconds**
(Dilutes 1 to 9 parts Water – 10%)

Blacking Agent (181) **30 – 60 seconds**
(Dilutes 1 to 3 parts Water – 25%)

Dewatering Oil (833C) **15 – 20 minutes**
(Used Straight – 100%)

FACTS:

Cola Soft Drinks and Beer, at pH's of 2.7 and 4.1, are more acidic than our two baths; conditioning and blacking at 3.2 and 4.4 pH's respectively.

Rinse waters are safely disposed to the drain if frequently changed.

There are no carcinogens or cyanides.

EQUIPMENT:

Tanks and complete turnkey systems quoted on an individual basis.

U.S.A. PRICING

SMALL BLACKFAST SYSTEM: 20 Litres (5.28 US Gallons)

10 LITERS (2.64 US Gallons) of:
716C LIGHT ALKALINE CLEANER \$106.00
(Mixed 1/1 Makes 20 liters of working solution)

2 LITERS (0.53 US Gallons) of:
551 CONDITIONER \$ 55.00
(Mixed 9/1 Makes 20 liters of working solution)

5 LITERS (1.32 US Gallons) of:
181 BLACKING AGENT \$119.00
(Mixed 3/1 Makes 20 liters of working solution)

20 LITERS (5.28 US Gallons) of:
833C DEWATERING OIL/INHIBITOR \$159.00
(Used undiluted Makes 20 liters of working solution)

TOTAL: \$439.00¹

You would supply your own 7 pails greater than 20 litres (5.28 US Gal.) capacity tubs with lids.

20 Litres COMPLETE with 7 tubs & lids: \$499.00¹



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

Average on-going chemical cost is less than 12 cents per square foot of surface area to be blacked.

¹Domestic Shipping & Handling charges will be added to your order. Shipped via FEDEX Ground Service. Prices are in US Dollars.

Credit card payment (Visa & MasterCard) for all first time orders.

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