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PRESTO BLACK® BK1 Mini-Blackening Kit

Operating Instructions

PRODUCT DESCRIPTION

The PRESTO BLACK® BK1 Mini-Kit is a complete 7-tank blackening line designed for tool room scale blackening of iron and steel components. The BK1 Mini-Kit utilizes the PRESTO BLACK® cold blackening process and includes all the equipment and chemical products needed to operate a 5-gallon scale process line. Any non-stainless steel or iron component can be blackened in the BK1 line.

The BK1 Mini-Kit includes the following components:

- 2 steel tubs and lids
- 5 plastic tubs and 2 plastic lids
- 1 hotplate (110V, 1100 watt)
- 1 gallon SAFE SCRUB® biodegradable liquid cleaner
- 1 gallon SAFE PREP® surface conditioner
- 1 gallon PRESTO BLACK® MKP make up blackening concentrate
- 1 gallon PRESTO BLACK® RPL replenisher
- 5 gallons DRI-TOUCH® PLUS IRP3 rust preventive
- Complete instructions, tank labels and Material Safety Data Sheets for all products

SETTING UP THE TANK LINE and MIXING THE CHEMICALS

Begin by attaching the enclosed tank labels to the empty tanks. Then, fill each tank, as described below:

Tank 1	Steel Cleaning Tank. Attach SAFE SCRUB® label. Then, mix ½ gallon SAFE SCRUB liquid cleaner into 4.5 gallons of tap water. Set the tub on top of the hotplate and heat to 150°F.
Tank 2	Plastic Rinse Tank. Attach RINSE label. Then, fill with cold tap water.
Tank 3	Plastic Surface Conditioning Tank. Attach SAFE PREP® label. Then, mix ½ gallon SAFE PREP surface conditioner into 4.5 gallons of tap water.
Tank 4	Plastic Rinse Tank. Attach RINSE label. Then, fill with cold tap water.
Tank 5	Plastic Blackening Tank. Attach PRESTO BLACK® label. Then, mix ½ gallon PRESTO BLACK® MKP Make up concentrate into 4.5 gallons of tap water. Stir.
Tank 6	Plastic Rinse Tank. Attach RINSE label. Then, fill with cold tap water.
Tank 7	Steel Oil Tank. Attach DRI TOUCH label. Then, fill with DRI-TOUCH PLUS® IRP3.

Normal tank heat-up time is 30-45 minutes. Once heated, the tank line is ready for blackening.

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

The Safety Data Sheet can be found on our website: www.birchwoodtechnologies.com

Use Appropriate Warning Labels on any Container used to Store or Apply this Product.

PROCESSING PARTS through the PRESTO BLACK® LINE

Most parts can be carried with steel or plastic-coated (Romex style) wires. Very small parts can be processed in bulk by carrying them in a mesh basket. Mild agitation during each immersion is helpful. Rusty or scaly parts should be bead blasted first. Then, use the following sequence:

Step 1	CLEAN in Tank 1. Immerse parts for 5 minutes at 150°F.
Step 2	RINSE in Tank 2 for 20 seconds.
Step 3	ACTIVATE SURFACE in Tank 3. Immerse for 1-2 minutes at room temperature.
Step 4	RINSE in Tank 4 for 20 seconds.
Step 5	BLACKEN in Tank 5 for 2-4 minutes, or until parts are a uniform gray/black.
Step 6	RINSE in Tank 6 for 20 seconds.
Step 7	SEAL in Tank 7. While parts are still wet from the rinse, immerse in sealant for 1 minute. Remove parts and allow to drain and dry.

That's it! The parts are now ready to be assembled or packaged.

All the solutions in the line are completely stable in storage and will deteriorate except through blackening. Cover the four chemical tanks between uses to keep dust and dirt out of the solutions. Also, it is a good idea to dump and re-fill each RINSE tank with fresh water OFTEN -- usually every 10-30 square feet of parts processed -- in order to prevent contamination of chemical solutions by residues carried in from previous tanks.

LINE MAINTENANCE

As parts are processed, the solutions will gradually weaken and work more slowly. Once this becomes noticeable, the solutions can be strengthened by replenishing with fresh concentrate. Add about 1/3 the amount used to originally mix the tank. Or, test the solutions by using the CCK-1 Color Change Test Kit, available from Birchwood Technologies®. As the solutions age or become saturated with oil or iron, they should be replaced with fresh solutions – about every 4-6 months under normal workload conditions.

The BK-1 Kit chemicals should be sufficient to operate the process line for 4-6 months and will cover 2000-3000 square feet of surface area. Replacement chemical products can be purchased, as needed, from Birchwood Technologies®. Please see the enclosed price list.

Thanks for your interest in Birchwood Technologies® products! Please feel free to call us at 1-800-328-6156 if there are questions.

Mini-Kit HELPFUL HINTS

Tank #1 – SAFE SCRUB® ST	• As water evaporates, add water to maintain level.
120-140°F 5-10 minute soak	• When floating oil slick is observed, skim off oil and add 1 quart of SAFE SCRUB concentrate. • Check for water breaks on part after rinsing in tank 2. If water breaks occur, your cleaning is inadequate. Add SAFE SCRUB concentrate, or increase time and temperature. • Dump SAFE SCRUB and mix fresh after 4 additions of fresh concentrate. • Unplug hotplate when idle. Leave rheostat knob set at operating setting.
Tank # 2, 4, 6 – RINSES 20 second immersion	• Dump and refill with fresh water when the water becomes cloudy.
Tank #3 – SAFE PREP® Room temperature. 1 minute immersion.	• Parts will take on a frosty, gray appearance. • When reaction slows, add 1 quart of SAFE PREP concentrate.
Tank #5 – PRESTO BLACK® Room temperature. 2-5 minute immersion.	• Tan precipitate forms as a by-product of the blackening reaction. As it accumulates, either let it lay on the bottom or slowly pour off the clear liquid and discard the precipitate. Do not try to stir it into solution. • When reaction slows, add 1 quart RPL concentrate.
Tank #7 – DRI-TOUCH® PLUS Room temperature. 1 minute immersion.	• This product is a water-displacer. Dip parts while still wet from the rinse. The water will drop to the bottom of the tank, and should be removed periodically with a plastic pump or siphon hose. • Allow parts to hang and dry after dipping. • Add DRI-TOUCH PLUS to maintain the level.

Note: Parts can soak for long periods in tanks 1 and 7 without problems. However, steps 2 through 6 should be timed operations. For best quality, keep rinse tanks clean and do the maintenance faithfully. Remember, cleaning is the most important step. Check each level of parts for cleanliness by watching for water breaks as the parts come out of rinse tank #2. If water breaks occur, improve the cleaning step.

Please call us at 1-800-328-6156 if you have questions or problems.