

METAL BLACKENING PRODUCTS

What is Metal Black and why blacken?

Metal Blackening involves the replacement of a surface skin of base metal by a Selenium compound. The term 'base metal' means exactly what it says. If you try to blacken metals that have oxidised, or are greasy and spotted with etch resist, you will experience disappointing results.

Blackening is carried out for a variety of reasons. Modellers mainly use it for giving rail, wheels, buffers, couplings, coupling rods, etc. a permanent 'work worn or rusty' look, where paint would hide delicate detail or rub off.

Brass is notoriously difficult to paint and blackening beforehand not only gives a slightly better 'key' to the paint, but when it does chip off, you do not see bright spots of unpainted brass showing.

There are different types of Metal Black and each works on a particular metal to produce a black or brown patina. Although types are named after common metals such as brass, nickel silver, whitemetal, solder and aluminium, some are better than others on different metals.

The table below gives a list of some metals and the successive treatments, which have been satisfactory. Be aware though, that different alloys of the same base metals will often perform quite differently. Further improvement can usually be achieved by light burnishing after it is dry. Mixing metal blacks will not improve their performance. However, subsequent treatment with alternative metal blacks can produce other useful effects. For example, treating whitemetal with "solder" then "whitemetal" can give a rusty finish.

Metal to Blacken	1st Application Use 'Metal Black for':	2nd Application (if required) Use 'Metal Black for':
Mild Steel	Steel	
Brass	Brass	
Nickel Silver	Nickel Silver	
Phosphor Bronze	Brass	
Copper	Aluminum	Steel
Whitemetal	Steel	Solder
Lead	Solder	
Pewter	Solder	
Chromium	Aluminum	Steel
Nickel	Aluminum	Nickel Silver

Application by brush or cotton bud is preferred. Immersion is useful but can give rise to flaking.

If flaking occurs or the effect is fast and rather coarse, the addition of water to double the volume will give a slower and finer finish.

Plunging the treated metal into water will halt the process – useful when you want just the lightest amount of surface discolouration.

Pre-Blackening Treatments

Neutralizing Rinse - C1052



This is an alkaline solution, highly effective in use as a degreasing liquid. We have already learnt of its uses in preventing corrosion from acid flux residues.

Acidip - C1060



This dioxides and prepares metals for soldering, blackening and painting. It may also be used for cleaning up flux residues after soldering.

Surface Conditioner - C1056



This solution has a twofold use.

It is perfect for cleaning metals – particularly brass and nickel silver, prior to soldering and is just as effective as the first step in the three stage blackening process.

As mentioned above, metal blackening will fail or at best be uneven if the metal is not perfectly clean. Cleaning is a three-stage process. The item to be blackened should be:

- 1) Degreased and any etch resist removed by immersion or scrubbing with Neutralizing Rinse or Surface Conditioner (works just as well).
- 2) Rinsed well and dried completely.
- 3) Immersed or scrubbed with Acidip.
- 4) Rinsed well and dried completely

Your metal should now be clean ready for blackening.

Post-Blackening Treatment

In themselves, metal blacks will tend to guard against corrosion. However, under severe circumstances, a thin coating of Electrofix will provide more permanent protection.

Electrofix - C1072



A lacquer, which will prevent Metal Black patinas from being rubbed away. It is used in electrical wiring to prevent a soldered joint from corroding. It will provide a low strength seal for nuts and bolts, where it is not desirable to use Loctite or similar compounds. It is essential for the protection of aluminum soldered joints.

Note - It attacks some plastics so please test and use with care.