

User Guide for Ultra-Blak ® 407 / 407L

1.) Clean

Degrease in a hot (**150-180°F**) solution of E-Kleen SR 102, E-Kleen SR 102-E, or E-Kleen SR 196. Let the cleaner work for **5-10 minutes**.

2.) Rinse

Rinse using a bottom-fed overflowing cold water rinse tank for **30-60 seconds**.

3.) Activate

Remove chromium oxide from stainless steel surface by using one of the following:

Option 3a. E-Pik 211 at **16-32 wt oz/gal** ambient to **150-180°F** for **2-5 minutes**.

Option 3b. Muriatic Acid at **50% by volume** at room temp for **5 minutes**.

Option 3c. A mix of 90% Muriatic Acid, 5% Sulfuric Acid, and 5% water by volume at room temp for **5 minutes**. Slowly add the Sulfuric acid to cold water, and allow to cool before adding the Muriatic Acid.

Option 3d. Exceptionally passive surfaces may require deoxidation with step 3b, followed by a cold water rinse, then activation in warm (**150-180°F**) solution of E-Pik 211 used at **1 to 2 lbs/gal** water with **30 second to 3 minute** immersions.

4.) Rinse

Rinse using a bottom-fed overflowing cold water rinse tank for **30-60 seconds**.

5.) Blacken

Immerse parts in boiling (**250-260°F**) Ultra-Blak 407 solution until a deep black color develops. Immersion times may vary from **2-15 minutes** depending upon the mass of parts and the type and condition of the stainless steel. Most blackening problems can be traced back to improperly prepared surfaces or an incorrect boiling point for the 407 solution.

NOTE: Excessive immersion times may lead to non-adherent finishes.

NOTE: Water will rapidly evaporate from the blackening solution due to the high temperature. If the solution level falls below the desired working level (this should be within about 3-10" of the top of the tank – we refer to this as “free board”), water is *slowly* added until the solution level reaches the desired point, then the Ultra Blak 407 / 407L is slowly added to produce the desired boiling point.

6.) Rinse

Transfer time from the Ultra-Blak 407 solution to the rinse water should be **as short as possible** to avoid the development of an off-color on the surface.

Rinse using a bottom-fed overflowing cold water rinse tank for **30-60 seconds**.

7.) Seal

Option 4a. *For an oily finish:* use E-Tec 501

Option 4b. *For a hard, dry, clear finish:* use E-Tec 520

Option 4c. *For a non-tacky, 'dry to the touch' finish:* use E-Tec 510 or E-Tec 504

Be sure to read and understand the Technical Data Sheets and Safety Data Sheets for each of these products before using them. Please see the Ultra-Blak 407 Technical Data Sheet for more detailed processing instructions.

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