

Operating Instructions for Du-Lites' XX Compound for Blackening Silver Solder

XX Compound has been specially formulated to blacken silver soldered areas on parts and assemblies in conjunction with Du-Lite's Steelkote or Oxiblak black oxide processes. XX Compound has proven itself in the firearms industry where silver solder is often used to attach sights and sighting ribs to gun barrels. XX Compound will effectively eliminate "bare spots" on assemblies or parts joined by means of silver solder and will result in a more durable, even finish on the entire assembly. These "bare spots" occur because conventional black oxide processes are designed to blacken steel only and will not blacken the silver soldered areas.

Parts and assemblies are processed normally in the Du-Lite Steelkote or Oxiblak process to blacken the steel, then rinsed well in an overflowing cold water rinse. To blacken the silver soldered areas, work is immersed in a bath of XX Compound, operating at a temperature of 160°-180°F and a concentration of 1 lb/gallon. Work remains immersed for 15 minutes (or longer, depending on the size of the processing load). After processing in the XX Compound bath, work is removed, rinsed well in an overflowing hot water rinse (no hotter than 140°F).

DO NOT RINSE PARTS WITH A HIGH PRESSURE WATER OR AIR HOSE. This will remove the soft black coating from the silver soldered areas before it has a chance to dry and harden which takes at least 24 - HOURS. A final coating of Du-Lite's Kwikseal or Kwikseal A will protect and seal the finish.

It is not necessary that your parts be completely dry before treating in Kwikseal, but, excess moisture should be shaken off before immersion. Because Kwikseal is a water displacing type of oil product, any excess water entering the oil tank will settle to the bottom. This excess water can be drained off the next day by a small petcock located at the bottom of the tank. Kwikseal is used straight at room temperature; immersion time is one to two minutes. Du-Lite's Kwikseal A works in the same manner as Kwikseal, but leaves an even lighter oil film. In applications where any oil film is objectionable, Du-Lite's Kwikseal D is recommended as a dry-to-touch finish. When parts and assemblies blackened in XX Compound are treated with oils, the parts should be allowed to stand for 24 hours before rubbing the surface. This allows the oil to set and bond to the black oxide finish creating a durable film.

MIXING INSTRUCTIONS:

If a new PLAIN STEEL tank is being used, no special preparation is required. If an old tank is being used, it must be cleaned and rinsed well to remove any possible contaminants. When mixing a new solution, first determine the number of gallons your tank holds; then you can determine the amount of XX Compound required to make the solution. When measuring the processing tank, use the inside dimensions. The solution should be three to six inches below the top of the tank to allow for expansion and boiling action. For square or rectangular tanks use the following formula:

Figure in Inches: Width x (Solution) Depth x Length ÷ 231 = Gallons

Example: For a tank measuring 6" x 9" x 40" with the solution down 3", calculate as follows: 6" x 6" x 40" = 1,440" ÷ 231 = 6.23 gallons

XX Compound is mixed at a concentration of 1-lb./gallon. Multiply the number of gallons your tank holds by 1 lb. - your answer will be the number of pounds required to mix the new solution.

MIXING SOLUTIONS: IMPORTANT! - When mixing a new solution, never start with HOT WATER (use cold or room temperature water only). When adding XX Compound or any other chemical to water, add small amounts and stir constantly. XX Compound can generate heat as it is being mixed with water. If this solution becomes too hot, it can erupt violently or cause a tank boil over! XX Compound must be added slowly and mixed well to insure that it is completely dissolved into the solution.

To mix the new solution, fill the XX Compound tank half full with room temperature or cold water. Slowly add a small amount of XX Compound to the tank while stirring constantly. The size of your tank will determine the increments of chemicals to be added at one time, i.e. a small gunsmith tank – 6"x9"x40" - with a capacity of 6 gallons requires 6 lbs. of XX Compound. This should be added to the tank in 1-lb. increments while mixing constantly. For large industrial tanks - with a capacity of 100 gallons or more, requiring 100 lbs. or more of XX Compound: XX Compound should be added in 8 to 12 lb. increments while mixing constantly.

After adding half of the amount of XX Compound required, turn on gas burners or electric heaters. Now you can alternately add water and XX Compound slowly and carefully, mixing constantly until the desired operating level and required quantity of XX Compound has been added. This procedure is not difficult and should be followed to avoid a boil over and to ensure the new solution is mixed properly.

BATH MAINTENANCE:

The XX Compound solution is maintained simply by making periodic additions of fresh compound and water to replace any material lost by "drag out" and consumption. As the bath loses its effectiveness to blacken properly, small amounts of XX Compound can be added to bring back its strength.

In the case of a small gunsmith tank with its original makeup containing 12 lbs. of XX Compound, it would require the addition of 1/2 to 1-lb. of XX Compound to return the solution to full strength. Water lost through evaporation or drag out is added to the tank to return the solution to its proper operating level. When adding replenishment chemicals it is not necessary to add water at this time. Water is only used to maintain the proper operating level in the tank. All chemical solutions have a certain useful life span and must be discarded and replaced periodically.

Solution concentration in large tanks can be maintained by using a testing hydrometer. The hydrometer must be a Baume (°Be) type for heavy liquid with a scale of 0-70°Be, calibrated at 60°F. The hydrometer is placed in the solution and allowed to float freely - note the reading on the hydrometer's scale at the surface level. XX Compound with a 1-lb./gallon concentration should give you a reading of 14. A lower reading indicates a low chemical concentration and additions must be made. Testing hydrometers are available from Du-Lite.

IMPORTANT! Material Safety Data Sheets for XX Compound are available from Du-Lite Corporation. All personnel who may come into contact with this product should read and familiarize themselves with these sheets.

THE PRODUCTS MENTIONED IN THESE INSTRUCTIONS ARE FOR INDUSTRIAL USE ONLY

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