



Cerrosafe™ casting alloy is used any time a “positive” copy must be made of a rifle, shotgun or handgun chamber, neck, throat or bore. Chamber casts are used to determine the caliber of an unknown or unmarked firearm, and to verify the marked caliber if it is suspected that the original chamber has been altered. It is also used to check dimensions and condition of the neck, throat, and bore to help determine bullet fit and case neck turning requirements.

Cerrosafe shrinks slightly during initial cooling. It then expands to the chamber’s original size about one hour after cooling to room temperature. After cooling for about 200 hours, the chamber cast will expand about .0025” over the actual chamber size. Cerrosafe is completely reusable; the chamber cast can be remelted and reused after all necessary measurements have been taken.

Cerrosafe can also be used to help remove stuck cartridge cases where the extractor has pulled the head from the case body, leaving the front of the case lodged in the chamber.



WARNING



To help avoid injury always wear proper protective clothing when working with any high temperature heat source such as an oxyacetylene torch or gas burner. Always wear high temperature protective gloves, a long sleeve cotton or wool shirt, pull on, high top leather boots, and a full face shield along with appropriate safety glasses or goggles. Remove all flammable material from your work surface and keep a fully charged fire extinguisher within reach. With regard to the use of these tools, the advice of Brownells Incorporated is general. If there is any question as to a specific application, it would be best to seek out specific advice from other sources and not rely solely on the general advice and warnings given.



WARNING



Never attempt to disassemble or reassemble a firearm unless you are absolutely certain that it is empty and unloaded. Visually inspect the chamber, the magazine and firing mechanism to be absolutely certain that no ammunition remains in the firearm. Disassembly and reassembly should follow the manufacturer’s instructions. If such instructions are not immediately available, contact the manufacturer to see if they are available. If they are not available at all, then you should consult other reference sources such as reference books or persons with sufficient knowledge. If such alternative sources are not available and you have a need to disassemble or reassemble the firearm, you should proceed basing your procedures on common sense and experience with similarly constructed firearms.

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HOW TO USE

CHAMBER CASTING: Cerrosafe has a melting range from 158° to 190° F. **Note:** Overheating may cause separation of the components of Cerrosafe alloy. Melt Cerrosafe in a double boiler or other means of clean, indirect heat. It should be poured from a clean ladle. If a heavy iron bullet caster’s or plumber’s ladle is used, a propane torch with a low flame can be used to heat the ladle from the bottom until the Cerrosafe is completely molten. A bent tin can may be used as a ladle, with the lip bent to form a pouring spout, and locking pliers (such as Visegrip brand) used as a handle for the can. If a small can is used, it should be set on a piece of heavy sheet steel and the heat applied to the steel from underneath with a propane torch. An industrial hot air gun can also be used to heat the Cerrosafe in a pouring ladle.

Disassemble the firearm as needed to gain access to the chamber. To cast a chamber on a gun that does not have ready access to the chamber (a bolt or lever action rifle for example), you must make a pouring tube and pour the molten Cerrosafe through the tube to reach the chamber. Tubes can be made of steel, brass, or aluminum tubing and should have a piece of material flared into a funnel form at the upper end.

Keep the tube as short as possible so the molten Cerrosafe will not solidify

in the tube. You may need an assistant to hold the tube with a pair of pliers and direct the flame of a propane torch over the tube to keep the Cerrosafe from solidifying in the tube during the pour.

The barrel and chamber must be clean and dry. Insert a tight-fitting cotton cleaning patch on a jag into the bore from the muzzle to serve as a “dam” for the Cerrosafe. Position the cleaning patch about ½” to 1” into the bore, ahead of the throat of the chamber. Heat the barrel at the chamber just to the point where it is uncomfortable to hold with your bare hand.

Heat the Cerrosafe as directed above and carefully pour the Cerrosafe into the chamber until it shows a slight mound at the rear of the chamber. Excess Cerrosafe at the rear of the chamber can sometimes prevent removal of the chamber cast. If this happens, melt the Cerrosafe in the chamber with a propane torch on the barrel and pour the Cerrosafe back into the ladle.

After the Cerrosafe has solidified, the chamber cast can be pushed out of the chamber. We recommend using a nylon covered steel cleaning rod with a brass jag tip on it. Push out the Cerrosafe chamber cast **within one-half hour** after casting. If more than one hour elapses after casting before attempting to remove the chamber cast, the Cerrosafe will start to expand and will have to be remelted and allowed to cool in the chamber to remove it. To remove the chamber cast from the chamber, clamp the barreled action horizontally in a padded bench vise and tap the handle of the cleaning rod with the palm of your hand to start the cast free from the chamber. Remove the barreled action from the vise and hold the breech end over a folded towel or shop rag on your bench top. Finish pushing out the chamber cast carefully so that it emerges from the action onto the folded cloth. Although the chamber cast is relatively hard, it can be damaged if dropped onto a hard surface such as an unpadded bench top or the floor.

Revolver chambers can be successfully cast with Cerrosafe if a plate of smooth, hard material, such as aluminum or Masonite, is clamped over the front of the chamber mouth. Be sure to cut a clearance hole for any gas ring or bearing surface at the crane or center pin location on the cylinder. Disassemble the cylinder as completely as possible. Remove the extractor star from double-action revolver cylinders.

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READ & FOLLOW THESE
INSTRUCTIONS

REMOVING BROKEN CARTRIDGE CASES FROM CHAMBERS: Occasionally a combination of factors will cause the head of a cartridge case to separate from the body of the case during firing. If the chamber or the exterior of the cartridge is dirty or corroded, it can be extremely difficult to remove the broken cartridge without damaging the chamber. Cerrosafe can usually be used to extract the front of the case without causing further damage to the chamber.

Clean the inside of the case with the correctly sized, dry, bronze chamber brush. Insert a tight-fitting cotton cleaning patch (on the jag) into the bore, from the muzzle, to serve as a "dam" for the Cerrosafe. Push the cleaning patch into the bore to within $\frac{1}{2}$ " of the mouth of the broken cartridge case. Melt and pour Cerrosafe into the chamber as described above. It is not necessary to make a mound of Cerrosafe at the chamber mouth as you would do to measure an unknown chamber. When the Cerrosafe has cooled to room temperature (or one-half hour, maximum), use your cleaning rod to push out the broken cartridge case. In extreme cases, you may have to use a bore-fitting brass rod in place of the cleaning rod, and use a brass or plastic headed hammer to start the broken cartridge case from the chamber. After the case has been removed, the Cerrosafe can be remelted and reused.

After the broken cartridge case has been removed, be sure to inspect both the rifle and the ammunition to determine the probable cause of the broken cartridge case. In some instances, the case separation may have been caused by excessive headspace. Some case head separations result from either incorrect ammunition or improperly loaded ammunition being used.

CAUTION: Cerrosafe should not be used to make a chamber cast if you sus-

pect the chamber is bulged, badly pitted or scored, or if the throat is eroded larger in diameter than the chamber mouth. In these instances, the chamber cast will become "mechanically locked" into the chamber and can be removed only by remelting the Cerrosafe and pouring it from the chamber.

A chamber cast can become "locked" into the chamber because of overaging. If this happens, secure the barrel in a padded bench vise with the breech end pointing up. Plug the bore as above and use a propane torch or heat gun to heat the barrel's breech and re-melt the Cerrosafe. Allow the chamber cast to cool to room temperature (or one-half hour, maximum) before attempting to remove as described above.

NOTES ON MEASURING CHAMBER CASTS

When Cerrosafe is used to determine chamber dimensions for identification of unknown chambers, remember you must allow for the expansion of the cast. Published dimensions for cartridges are usually based on measured examples of cartridges, and a sample of several "identical" cartridges from different lots or from different manufacturers may differ significantly. Also, don't forget that a chamber will almost always be several thousandths of an inch larger in all dimensions than the cartridge to allow for proper feeding and functioning. Manufacturing tolerances of chamber reamers must be taken into account. With many bolt action rifles and some pumps and auto-loaders, you will not be able to make a chamber cast of the complete chamber, including the rim section, since the bolt face is set back from the breech of the barrel.