

CORBIN[®]

CORE BOND

Corbin Core Bond (CCB) is used in the world's top hunting bullets, to prevent core separation from the jacket, and provide classic mushroom performance on impact.

Core Bond is used to make successful "bonded core" designs at home as well. It is easy to use, economical, and provides a level of bonding that goes far beyond mere surface adhesion. Glues, solders, and other surface adherants depend on attraction to the surface of the two metals, with an abrupt junction in the tensile strength that concentrates impact force. Adhesion failure due to contaminants on the surface, such as oxides and sulphates, are common with "stick on" glues and solders.

Core Bond works by diffusion bonding: it lowers the surface tension of the liquid core when you heat the jacket. This allows the core material to penetrate into the jacket to a depth of several microns. The result is a graduated tensile strength bonding area, which channels the impact force into the lower strength core so it peels back with the jacket.

After more than 30 years, the world's best hunting bullet makers have proven time and time again that Corbin Core Bond is the ultimate in weight retention combined with expansion in a high density, high BC bullet design. Solid copper bullets will always have lower BC than a bonded lead core bullet of the same volume and shape.

For the highest BC, best retained weight, and lowest chance of bullet failure, bond your hunting bullets with Corbin Core Bond!



How to bond your bullets with Corbin Core Bond...

1. Swage the lead cores to precise weight as usual.
2. Clean the jackets and cores by boiling in hot water with a few drops of detergent and 2-3 tablespoons of vinegar per pint of water. Alternatively, an organic solvent such as acetone or MEK can be used (with proper regard for fire and breathing hazards, that is, no open flames or sparks, plenty of ventilation).
3. Make sure the components are completely dry. Arrange the jackets so that they are held securely, open end facing up. Corbin Heat Treatment Blocks are ideal for holding bullet jackets, as they reflect heat back into the jacket and protect the supporting surface. The jackets should be held so that they can be heated with a propane torch, or placed in a Corbin heat treatment oven.
4. Make sure the cores will drop easily to the bottom of the jacket with no trapped air beneath. *Do not swage the cores into the jackets yet! Simply drop them in by hand.* The core must be shorter than the jacket, or it may run over the sides when it melts. Lead tips can be made by adding a short piece of core later (calculate the weight difference for the bonded core). The core diameter should be close to but smaller than the ID of the jacket. Jackets taper toward the base, and the jacket must fit at the base.

CAUTION: Wear Eye Protection! Cores which fit too closely in the jacket can be blown out with force when you heat the Core Bond! Too loose or too tight a fit will NOT bond! A .001-.005 in. slip fit is ideal. Tight fits can be dangerous!

5. Place one or two drops of CCB into each jacket and let them run down over the cores. Then heat the jackets, bringing them to the melting point of the lead as quickly as you can. Do not over-heat. Just melt the lead and remove the heat as soon as it melts.
6. Let the cores cool. If the cores form a "shrink hole" and appear to be concave at the top, they are bonded. If they form a dome on top, they are not bonded. Boil the jackets and cores again in water with a tablespoon of baking soda per pint of water. *This is important! Do not skip it.* Let the jackets dry. Then seat the core as usual (a HP punch centers the shrink hole) to expand the jacket.

Note: Core Bond is corrosive and will destroy dies if not neutralized by boiling the bonded jackets in the baking soda solution.