

# C-1 CORE MIX

C-1 Core Mix is a strong core material used to make preformed cores and is used primarily by ferrous casters. It is exothermic (giving off heat) as it sets; which, in most cases, prevents it from being used in direct contact with wax patterns. However, if the core is small, such as with a golf club hosel, you can form the core against the wax pattern without damage to the wax. C-1 Core Mix can be used to hand pack cores, depending on the size and type of core needed.

## Application Recommendations

Water/Powder Ratio by Weight*	Working Time**	Setting Time
14/100	5-5½ minutes	10 minutes maximum

\*To improve the strength of C-1 Core Mix, replace a portion of the water with Core Hardener 2000™ binder. Flow characteristics are reduced when using higher percentages of Core Hardener 2000 binder. It is recommended to use 2 parts water to 1 part Core Hardener 2000 binder by volume.

\*\*By using cold water or a combination of cold water plus chilled core material you can lengthen the working time.

1. Powder should be added to water in the proper proportions and mixed by hand or mechanically to make a smooth consistency. This should take 1-1½ minutes. The mix can then be poured or vibrated into the ceramic shell, rubber or plastic mold.
2. C-1 Core Mix will bond to most metallic objects unless their surfaces are heavily lubricated. C-1 Core Mix can be vacuumed after mixing to remove excess air. This process will help increase core strength.
3. After the preformed core molds are poured, they should be allowed to set until they have sufficient strength to permit separation. This time is best determined by experimentation and will vary depending on the size and type of the mold. Adding external heat will accelerate the hardening process.
4. Preformed cores should be air dried 3-4 hours, then baked at a minimum of 1200 °F (650 °C) for 3-4 hours before use. If a metal mold reaction occurs, the baking temperature should be increased until the reaction is eliminated. In some cases it may be necessary to bake the cores in a kiln at 2300-2500 °F (1260-1271 °C). In such cases, the cores should be supported so they don't sag or distort.
5. For cores hand packed into a ceramic shell mold, follow the same mixing instructions. After the core has been packed, allow 1 hour for the core material to set before proceeding with the remaining shell coating. Ceramic shells containing these core materials should be processed as normal. After autoclaving, dry for 4 hours. This allows the excess water to evaporate prior to firing, preventing the core from exploding.
6. Where autoclave dewaxing is used to remove the pattern, the pressure must be released very slowly to prevent destruction of the core material.
7. When making preformed cores or coring directly into the wax, a core extension is needed. The shell is built around the core extension to hold the core in place. The core extension should be at least ¼" long or longer, depending on the core size. When hand packing cores, a core extension may be necessary depending on the core size and configuration. If making a core extension is not possible, a fused quartz tube can be inserted into the core material before it sets.

## Storage & Handling

Shelf life is 6 months from date (MMDDYY) in batch lot number on label. Rotate stock to maximize shelf life.

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