

# Refractory Mortar vs. Fireclay

**Your fireplace is only as strong as the mortar you choose.**

In recent years we have seen vast changes regarding building code requirements for mortar used on firebrick (fireplace) and clay flue liner (chimney) installations. Jobsite prepared mortars that may have included fireclay and Portland cement no longer meet code. Factory prepared refractory mortar is now the accepted standard. Refractory mortars have become easier to use, safer, are more readily available, and meet all of the local and national building codes.

## Liability

Homespun formulations can become liability issues because fireclay mixes break down and lose strength as they pass through temperature ranges of 600-800 degrees. They simply don't take the heat like refractory mortars do, nor do they have the strength or acid resistance.

## Legal Responsibility

The International Code Council (ICC), the International Residential Code (IRC) and the National Fire Protection Association (NFPA-211) now all require refractory mortar tested to American Society for Testing Materials, ASTM C-199, medium duty.

## Pre-Mix vs. Dry Mix

There are basically two kinds of refractory mortar conforming to ASTM C-199 and permitted by code. Non-water soluble refractory mortar (sometimes called hydraulic setting) is a dry blend, requiring only cold water to be added, usually ships in a bag, and sets up or cures much like a regular mortar mix. The second type is a premixed version and it comes in a pail and is about the consistency of drywall compound. It usually requires no additives, and with a little mixing is ready to use.



Non-water soluble refractory mortar is the only refractory mortar that should be used in outdoor applications. Premixed refractory mortars may wash out even after drying. Due to the previously mentioned characteristics, non-water soluble product is also the preferred choice for clay flue installations that may vent gas or oil appliances or in any other instance where moisture may be present within the clay flue. This is our overall refractory mortar of choice. It is used four to one vs. other types of refractory mortar in residential construction.